Ontario Ministry of Health and Long-Term Care

Evaluation of Primary Care Reform Pilots in Ontario
Phase 2 Interim Report

October 31, 2001

PRICEWATERHOUSECOOPERS

EVALUATION OF PRIMARY CARE REFORM PILOTS IN ONTARIO
PHASE 2 INTERIM REPORT

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EXECUTIVE SUMMARY

Primary care reform (PCR) continues to move forward in Ontario and there are early signs that progress is being made toward attainment of the reform goals. This interim report for Phase 2 aims to describe and assess the progress that is occurring, the barriers to progress and the opportunities for improvement. The report addresses the second phase of a three-phased evaluation of primary care reform in Ontario. While the first phase of the evaluation examined implementation of the pilots, Phase 2 focuses on process and includes managerial, service provision, patient and provider components. Specifically, the report provides an overview of each network and discusses the pilot experience in terms of human resources, collaboration and cooperation among network members, payment mechanisms, use of information technology, enrollment, 24-hour access, services to patients, health promotion and prevention the relationship of the PCNs with the rest of the health care system, and the patient experience.

There are now thirteen active primary care networks (PCNs) in the pilot project. The networks are located in six communities: Chatham, Hamilton, Ottawa, Paris, Parry Sound and Rural Kingston. Over 245,000 patients have enrolled with these networks and 166 physicians have signed contracts with the Ministry of Health and Long-Term Care (the "Ministry") to be part of the PCNs. The Ministry has provided funding for seven new nurse practitioner positions and allowed former HSO physicians in the pilot to maintain funding for specialized resources (e.g. mental health counsellors, psychiatrists, dieticians). In addition, there are dozens of nurses and administrative staff connected to specific physician offices that also contribute to the delivery of patient care in the PCNs. A telephone advice line has been established for the pilots and is serving ten of the thirteen PCNs. (A plan has recently been put in place to expand the service to the three newest PCNs.)

Among the networks there are significant variations in terms of the pace of progress, stakeholder experiences and accomplishments. The diversity of network experiences reflect the diversity of the physicians involved and the uniqueness of the communities served. The number of networks and the variety of different components of the reform add to the complexity and make it difficult to generalize. It is important to keep this diversity in mind when interpreting the findings related to the pilots. It is also important to keep in mind that many of the findings were collected during site visits which concluded on September 28,2001. Changes in the PCNs made after this date will be reported in our next report.

Key findings include:

- Most PCNs consist of a mix of solo and group physician practices; there are two single location networks
  - PCNs range in size from 4 to 21 physicians
  - Three of the PCNs (Chatham, Paris and Parry Sound) are underserviced areas in terms of the number of family physicians

- Each PCN has a Network Leader who provides leadership in terms of group collaboration, decision-making and administration; they are compensated for their role
- All PCNs hold group meetings; beyond this the extent and type of collaboration varies
- The top five benefits physicians have experienced being part of a PCN are: the lifestyle and practice-style benefits of the capitation model; better care for patients; information technology (IT); increased income; shared call and coverage for absences
- The top five challenges physicians have faced being part of a PCN are: administrative demands; IT; patient rostering; dealing with the Ministry; negation

To date, the involvement of nurse practitioners and other health care providers in the networks has been limited

- Nurse practitioners play a wide variety of roles which contribute to the delivery and quality of patient care
- Patients report very high satisfaction with nurse practitioners
- Role definition and team integration have been a challenges in integrating nurse practitioners into PCNs; the nurse practitioner to physician ratio in extremely low in many PCNs
- High turnover amongst nurse practitioners is a source of concern
- Access to specialized resources (mental health counsellors, nutritionists, psychiatrists) varies because only former HSO physicians have funding for these resources. These physicians are extremely satisfied with this service which is of great benefit to their patients. Oher physicians would also like to have access to specialized resources but funding has not been provided to expand access for all physicians in the PCNs

➢ Ten PCNs are using the capitation payment mechanism; three PCNs are using the reformed-fee-for-service (RFFS) mechanism

- There is high physician satisfaction with capitation and preliminary evidence of changed behaviours due to capitation incentives
- There is low physician satisfaction with RFFS and no evidence at this stage of changed behaviours
- Roster size and patient profile can influence income; there is a need to ensure that the principle of equal access to PCR for all patients is maintained

➢ Integration of information technology (IT) varies from network to network and from physician to physician

- There are many examples of successful integration of IT into practice including identification of patients on recalled drugs, preventive reminders, recalls for patient monitoring, templates for common conditions and physical exams
- IT is also used by every physician for practice management

- Barriers to further integration include delays in development of certain functions (e.g. online enrolment, secure e-mail, drug interaction software), implementation problems, physician readiness, misalignment of stakeholder expectations and reality

- For some practices enrolment activities have wound down and the process is no longer a burden; for other practices enrolment continues to be paper-intensive and time consuming
  - Some physicians perceive that roster limits are problematic in areas with a physician shortage
  - Physician initiated de-rostering is occurring for a variety of reasons including outside use
  - Only 33.2% of enrolled patients have signed consent forms

- All PCNs are meeting the Ministry requirement for extended hours coverage
  - There are many examples of shared call arrangements
  - Some PCNs are collaborating on innovative approaches to covering physician absences due to vacation, holidays, illness, CME, etc

- 10 out of 13 PCNs using teletriage
  - Volume of teletriage calls has exceeded forecast; there were 15,624 calls between September 2000 and May 2001
  - Call volumes are low in some communities such as Carlisle, Kingston and Chatham
  - The three newest PCNs do not yet have access to the teletriage service due to contractual issues
  - Data from the teletriage service provider indicates that fewer patients are being advised to go to emergency departments than those whose pre-intent was to go to the emergency department
  - Linguistic accessibility is an issue for after hours access

- Primary care reform is encouraging an increased emphasis on health promotion, prevention and patient education through four initiatives: new staff resources (i.e. nurse practitioners), information technology (e.g. preventive reminders), continuing medical education fee code, and financial incentives (i.e. capitation, bonus fee codes)

- Few new linkages have been forged with community partners; this may be because the PCNs have been very busy and/or because gaps in service make it difficult for physicians to achieve continuity of care.

Observations about the pilots must be interpreted within the context of the goals that were established for the pilots at the outset. The four primary care reform goals are: improved access, improved quality and continuity of care, increased patient and provider satisfaction and increased cost-effectiveness of health care services. Some of the findings and trends observed provide insight into the achievement of specific goals. For example:

Improved Access

- All PCNs provide extended hours and share call (including on-site at designated locations) to ensure after-hours coverage. The establishment of new on-call and coverage arrangements that did not exist previously has improved coordination of care in some communities.
- Nurse practitioners are working in Hamilton, Paris and Rural Kingston. Where they exist, nurse practitioners are sharing the patient load and reducing the burden on physicians. Paris is an underserviced area.
- The volume of patients using the teletriage service has surpassed the level of utilization expected.
- The physician linkage to the teletriage service informs physicians when their patients contact the ON-Call Healthline with a health concern. Most physicians report that they are reading this form and then filing it in the patient's chart making it part of the ongoing patient record.
- In some cases, the increasing of rosters has provided access to patients who previously did not have a family doctor.

Improved quality and continuity of care

- The literature shows that clinical management systems have the potential to improve quality of care by reducing medical errors and adverse drug reactions. All PCN physicians are required to have a clinical management system. These systems are being used to various degrees within the pilots.
- Some physicians are using the following functionalities that can potentially improve quality of care: electronic medical records that facilitate analysis of patient histories to identify trends or specific patient groups, templates for specific disease groups or common interventions that improve the standardization of care, electronic reminders of when patients are due for preventive interventions and when patients need to be re-called for monitoring for chronic conditions such as diabetes or high cholesterol
- Some nurse practitioners are conducting home visits; in some cases the nurse practitioner coordinates her visits with the home care nurse.
- Nurse practitioners are providing health promotion programs such as flu clinics, smoking cessation and diabetic teaching.
- Some physicians on the capitation payment model have said that they have revisited their treatment and follow up patterns.
- Physicians on capitation feel that access to continuing education has increased because there is no financial penalty for taking time off for CME

- Preliminary results from the patient survey suggest that PCN patients are more satisfied than Ontario patients as a whole.
- According to reports by the teletriage service provider, 89% of callers to the teletriage service report that they agree with the advice provided by the teletriage nurse.
- Patients report that the addition of a nurse practitioner has enhanced the quality of primary care they receive due to improved access to health information.

- Very few physicians report having to de-roster patients because they are dissatisfied with primary care reform.
- However, overall patients have noticed little change in access, waiting time or quality with the introduction of primary care reform

- Satisfaction levels appear to be on the increase as the hectic pace of the start-up phase winds down for most PCNs
- Very few physicians have left the PCNs since they were introduced. To date, no physician has left a network due to dissatisfaction with primary care reform.
- Satisfaction levels amongst nurse practitioners vary substantially and there are several sources of dissatisfaction that warrant close attention.
- Turnover among nurse practitioners has been very high

Increased Cost-Effectiveness of Health Care Services

- The use of practice management software for appointment scheduling, registration and billings have improved office efficiencies.
- The use of electronic medical records also improves efficiencies.
- The teletriage service appears to have had a positive impact on emergency room utilization. Data from the teletriage service provider suggests that in the absence of the teletriage service the callers would have made 1,874 visits to hospital emergency rooms. However, the teletriage service advised only 871 callers to seek emergency care – a difference of 1,003 visits.
- It has been proposed that nurse practitioners might have an impact on cost-effectiveness but there is no definitive evidence on the economic impact of nurse practitioners in the PCNs.

While there has obviously been some progress towards achievement of the four primary care goals many stakeholders have expressed a sense of disappointment that the networks are not further along. There are a number of barriers impeding the progress of the networks. These barriers can be divided into three categories:

1) **Implementation barriers.** These are barriers that relate, not to the model, but to how the model has been applied in practice. Implementation barriers usually have a high likelihood of being addressed over time as experience is gathered, feedback is obtained and corrective action is taken. For pilots such as PCR that are intended to entice a broader audience to participate in the model, it is critical that implementation barriers are identified and addressed as soon as possible. This must be a priority. Examples of implementation barriers include delays in various IT components, insufficient multidisciplinary resources, inability to respond to higher than anticipated teletriage call volumes and insufficient patient and public education about the reform.

2) **Model barriers.** These barriers speak to fundamental problems with the primary care reform model that is being implemented. Identification of these barriers will be important to Ontario Family Health Network (OFHN) the Ministry and the Ontario Medical Association (OMA) who are committed to learning from the pilots so that the model can be fine-tuned and improved in preparation for the provincial roll-out.

Examples of model barriers include a physician-centric approach to the reform, issues with the bonus codes and capitation rates, insufficient feedback to physicians on outside use, and the need for specific performance measures for the PCNs.

3) **Systemic barriers**. These barriers relate to the structure and nature of the health care system in which the pilot is being introduced. Systemic barriers are not unique to the pilot. They usually existed prior to the pilot and effect other health care services and programs as well. Addressing systemic barriers will require significant action on the part of funders, policy makers and planners. The corrective action required will likely be long-term. Examples of systemic barriers include physician shortages, the health care funding structure, lack of integration with reforms in other health sectors and gaps in service.

At this stage, the PCNs are a work-in-progress. However, they clearly show promise and there are a growing number of successes upon which to build. Improved planning and implementation of the networks with a focus on the barriers identified is critical to future success.

PART A: BACKGROUND

1. Purpose of this Report

In July 1996, the Ministry of Health and Long-Term (the "Ministry" or the "MOHLTC") and the Ontario Medical Association ("OMA") announced the implementation of a provincial primary health care reform initiative. Over the past five years, a new model of primary care has been designed and is being implemented on a pilot basis in six Ontario communities.

The Ministry, in collaboration with the OMA, recognizes the importance of an objective, rigorous evaluation to assess the success of the pilots and capture learnings to inform a broad province-wide implementation. PricewaterhouseCoopers LLP (PwC) has been commissioned to carry out this evaluation. The evaluation was launched January 2001.

The terms of reference for the evaluation specify that the evaluation will be made up of three (3) phases. Phase 1 will be descriptive in nature and will assess the implementation process. Phase 2 will focus on an evaluation of the primary care reform (PCR) process. Phase 3 will be an impact evaluation to determine the reform's results or outcomes.

The final report on Phase 1 of the evaluation was completed in April 2001. The Phase 1 report described the background of primary care reform, key features of the pilot networks, evaluation activities conducted to date and the implementation experience.

This report is an interim report on Phase 2 of the evaluation. As noted above, Phase 2 is an evaluation of the primary care reform process and will assess and describe the situation at each of the pilot sites. This will include managerial, service provision, patient and provider components. Specifically, it will look at the service mix, staffing, patient characteristics, the treatment of specific diseases, preventative interventions, the use of tele-triage by patients and physicians, the impact of IT on the practice of physicians and the primary care networks (PCNs), and the use and benefit of continuing medical education (CME) courses for physicians. Additionally, it will assess the relationship of the PCNs with the rest of the health care system.

This Interim Phase 2 Report is based on information collected from a variety of sources and using a variety of data collection methods including:

- 37 key informant interviews
- 86 interviews with PCN physicians, other providers and administrative staff working in the pilots
- Two patient focus groups conducted at one of the PCNs
- A review of background information and roster statistics
- A survey of rostered patients

This interim report is divided into four (4) parts:

- Part A provides an overview of primary care reform and the pilots
- Part B describes the evaluation methodology
- Part C describes interim evaluation findings; the highlights are summarized at the beginning of the section
- Part D brings together the evaluation findings to answer three questions about primary care reform: Are we achieving the primary care reform goals? What is holding us back? What do we need to consider moving forward?

The Final Phase 2 Report is scheduled for completion in March 2002.

2. Overview of Primary Care Reform in Ontario

Primary care models differ on various jurisdictions in Canada. Globally, many different approaches to primary care reform have emerged. Therefore, at the outset, it is important to set the stage and create a common understanding of primary care reform in Ontario.

2.1 Reasons for Reform

Some of the concerns that are driving primary care reform in Ontario and around the world are:

- Lack of communication and information sharing across the health care sector
- Financial incentives built into the fee-for-service remuneration model
- Fragmentation of care as patients move across the system
- Uneven access to primary care
- Increase in "office only" primary care physicians
- Rising health care costs

These issues combined with trends such as the aging population, growing health care consumerism and technological advances highlight the need for new models of primary care delivery.

The model of primary care reform in Ontario has been designed to respond to these issues and trends.

2.2 Reform Goals and Objectives in Ontario

The goals and objectives of primary care reform in Ontario were articulated in 1998, when the Ministry adopted recommendations from the Primary Care Reform Steering Committee. They are:

Goals and Objective of Primary Care Reform in Ontario

Goals	Objectives
Improved access	• Improve the co-ordination of patient care • Improve the distribution of physicians and non-physician primary care providers in order to improve patient access in areas of relative geographic undersupply • Improve access to health care by means of a 24-hour response system
Improved quality and continuity of care	• Increase preventive care initiatives • Improve the continuity of care through the effective use of technology • Improve the willingness of primary care providers

	to stay within the agency/group • Enhance the involvement and appropriate role of primary care physicians • Enhance the involvement and appropriate role of non-physician primary care providers • Clarify the role of specialized primary care physicians • Improve continuing education of primary care providers
Increased patient and provider satisfaction	(No specific objectives identified)
Increased cost-effectiveness of health care services	• Decrease duplication of patient care and diagnostic testing • Improve drug utilization • Increase the use of cost-effective information technology • Increase patient and provider accountability for the appropriate use of health care resources

Reference: Primary Care Implementation Steering Committee

2.3 Description of Ontario's Primary Care Reform Model

The primary care reform model in Ontario is based on the concept of a network of physicians, as well as other health care providers, at one or more locations, who enrol patients for the provision and co-ordination of primary care services. While it is recognised that flexibility is required to ensure that the approach is tailored to community needs, a number of key elements are consistent across all primary care reform pilot sites:

- Population-based funding for physician services, either through reformed fee-for-service or global capitation mechanisms
- Enrolment of patients
- A telephone triage service (to provide 24 hour accessibility to health care advice)
- Incentives for preventative interventions
- Integration of information technology into practice
- Voluntary physician participation and the ability to choose which network they wished to join
- Encouragement for greater integration with other parts of the health care system

2.4 Recent Government Initiatives

There appears to be a high-level of commitment from the government to moving forward with primary care reform. For example:

- The Ministry's Business Plan 2000-2001 identified "enhanced access to primary care through continued implementation of primary care reform" as a priority goal for the Ministry.
- In its May 2000 Budget Speech, the government announced that it would invest $100 million over four years to expand primary care and $150 million for new information systems for transition to primary care networks.
- On March 21, 2001 the government reconfirmed its commitment to primary care reform including a target to see 80% of family doctors join a network by 2004 and a financial investment of $250 million to establish the networks.
- Also, on March 21, 2001, Premier Mike Harris announced the establishment of a new agency called the Ontario Family Health Network (OFHN) that has been created to oversee the implementation and expansion of primary care networks across the province.
- Province-wide expansion of primary care reform is underway.

2.5 Responsibility for Primary Care Reform

A great deal of planning, co-ordination and negotiation are required to bring all of the elements of the reform together into a workable model. This is accomplished through the efforts of four key stakeholder groups- the OFHN, the MOHLTC, the OMA and the PCNs.

The mandate of the OFHN is to support the planning, implementation and management of family health networks in Ontario by:

- Informing the development of program and operational policies and strategies related to enhancement of family health care for recommendations to the Ministry
- Implementing and managing programs, processes, and systems supporting family health networks
- Leading and supporting the ongoing evaluation of family health network initiatives

In fulfilling its mandate, the agency's roles and responsibilities include:

- Offering template agreements, developed by the Ministry and the OMA to primary care physicians interested in participating in primary care reform starting April 1, 2001
- Implementing, managing and monitoring contract signings
- Responding directly to public and provider inquiries about the operation of the agency
- Providing timely and accurate progress reports to the Minister[1]

[1] "Backgrounder – Government investments in the Ontario Family Health Network", Government of Ontario Press Releases, March 21, 2001, Toronto.

The work of OFHN is supported by a number of research projects. The following studies have been commissioned:

- A study to assess the effectiveness of various rostering methods
- A study on physician IT acquisition
- Research on payment mechanisms and capitation formulas
- Development of performance measures for family practices

The name of the new agency is significant because it reflects an important change in the primary care reform nomenclature. In a move to increase consumer understanding of primary care reform, primary care networks will, in future, be referred to as Family Health Networks (FHNs).

The MOHLTC has ultimate responsibility for primary care reform. An understanding of their role and how they are organized to implement the reform is an important part of the context of this evaluation.

The Ministry is organized into a number of divisions, each one headed by an Assistant Deputy Minister. Prior to the establishment of OFHN in March 2001, responsibility for implementation of primary care reform rested with the Health Services Division. The Health Services Division has responsibility for handling all provider payments. The Alternate Payment Programs branch is responsible for developing and managing the operation and administration of arrangements with alternatively funded health service providers. The Registration and Claims Branch (of the Health Services Division) manages payments to PCN physicians.

To ensure objectivity, the evaluation of the primary care reform pilots is being overseen by the Strategic Health Policy branch under the Integrated Policy and Planning Division.

The OMA has been an ongoing partner in the primary care reform process. According to OMA President, Dr. Kenneth Sky: "As partners in primary care reform with government over the last several years, our main objective has been to ensure that voluntary networks benefit patients and physicians."[2] One of the OMA's most important roles is negotiating the central legal framework for primary care reform networks.

For a more detailed description of Ontario's Primary Care Reform model, see Appendix A.

2.6 Summary

The primary care reform model in Ontario discussed in this evaluation is based on the establishment of networks of primary care physicians working with other providers to provide primary health care services to a rostered population, supported by an after-hours telephone triage line and IT systems. Implementation of the reform was first announced in 1996. In March 2001, it was announced that responsibility for the implementation of

[2] OMA Press Release, July 9, 2001.

PCR will rest with an agency called the Ontario Family Health Network and future networks will be called Family Health Networks.

3. Description of Primary Care Network Pilots

This section briefly describes the key features of the primary care network pilots. More detailed information on the characteristics of the networks is provided in Part C and further details about the components of the primary care networks can be found in Appendix B.

To date, thirteen networks in six communities have signed agreements with the MOHLTC to participate in primary care reform. Each network has a physician lead. Hamilton, with eight networks also has an overall physician leader.

The following is a list of each site, each network and each site/network leader.

Site	Network
Paris	Primacare
Chatham	Chatham
Hamilton	
	Stoney Creek
	Carlisle
	Core
	Escarpment
	Intramed
	Innovations
	Hamilton Community Health Centre (HCHC)
	McMaster
Kingston	Rural Kingston
Ottawa	West Carleton
Parry Sound	Parry Sound

3.1 Site Demographics

The purpose of this section is to highlight the key demographic features (i.e. population size, growth, income and unemployment rates) of the primary care pilot sites.

A more detailed overview of the catchment area demographics is provided in Appendix C. The Appendix includes statistical information on:

- Population size and forecasted growth
- Resident demographics such as age groups, gender distribution, income levels, educational levels, languages spoken and immigration information
- Birth rates
- Active physicians in the catchment area by specialty of practice
- Health services available in the catchment area (e.g. hospitals, CCACs)

The table below presents the populations of the site catchment areas and the average growth rates. The population of the catchment areas for the pilot sites range greatly.

Population Estimates

PCN Site		Parry Sound	Paris	Chatham	Ottawa	Kingston	Hamilton
Census Division	Ontario	Parry Sound	Brant	Kent	Ottawa-Carleton	Frontenac	Hamilton-Wentworth
1999 Population Estimate	11,513,808	41,454	125,212	112,576	763,942	138,344	493,833
% Change 91-99	12.40%	7.30%	11.50%	2.30%	11.20%	6.70%	9.30%
Avg. Annual Growth Rate	1.80%	1.00%	1.60%	0.30%	1.60%	0.90%	1.20%
1999 Male	5,680,916	20,691	61,488	55,424	376,088	68,201	242,868
1999 Female	5,832,892	20,763	63,724	57,152	387,854	70,143	250,965

The following table shows income and employment information across the sites. The average family income at the sites ranges from $42,702 to $67,871, and the unemployment rate ranges from 8.3% to 12.9%. Unlike the provincial average, in four out of the seven census divisions, females have a lower unemployment rate than males.

Income and Employment

PCN Site		Parry Sound	Paris	Chatham	Ottawa	Kingston	Hamilton
Census Division	Ontario	Parry Sound	Brant	Kent	Ottawa-Carleton	Frontenac	Hamilton-Wentworth
Income							
	59,830	42,702	53,893	54,999	67,871	56,450	56,223
Unemployment Rate							
Per Capita (over 15)	9.1	12.9	8.3	8.4	8.7	9.7	9.1
Males (over 15)	8.7	14.3	7.2	7.9	8.8	9.8	8.9
Females (over 15)	9.6	11.1	9.5	9	8.7	9.5	9.3

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Population Estimates

PCN Site		Parry Sound	Paris	Chatham	Ottawa	Kingston	Hamilton
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Avg. Annual Growth Rate	1.80%	1.00%	1.60%	0.30%	1.60%	0.90%	1.20%
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The following table shows income and employment information across the sites. The average family income at the sites ranges from $42,702 to $67,871, and the unemployment rate ranges from 8.3% to 12.9%. Unlike the provincial average, in four out of the seven census divisions, females have a lower unemployment rate than males.

Income and Employment

PCN Site		Parry Sound	Paris	Chatham	Ottawa	Kingston	Hamilton
Census Division	Ontario	Parry Sound	Brant	Kent	Ottawa-Carleton	Frontenac	Hamilton-Wentworth
Income							
	59,830	42,702	53,893	54,999	67,871	56,450	56,223
Unemployment Rate							
Per Capita (over 15)	9.1	12.9	8.3	8.4	8.7	9.7	9.1
Males (over 15)	8.7	14.3	7.2	7.9	8.5	9.8	8.9
Females (over 15)	9.6	11.1	9.5	9	8.7	9.5	9.3

PART B: METHODOLOGY

4. PricewaterhouseCoopers Overall Evaluation Approach and Methodology Framework

The purpose of this section is to describe the conceptual framework and the three-phased approach to the evaluation of primary care reform. A description of specific information collection methods and more detail about the methodology is provided in Appendix D.

4.1 Conceptual Framework for Primary Care Evaluation

One of the challenges in any evaluation is to balance the need for tested and validated methodologies with the need to recognize the unique, local features of the specific program being evaluated. Given the importance of this evaluation to the future of primary care in Ontario, a methodology was required that would address both needs effectively. The conceptual framework for this evaluation draws on an extensive review of evaluation methodologies. It represents a synthesis of the various approaches adapted to suit the Ontario environment, the goals and objectives of primary care reform and the identified evaluation questions.

The approach for this evaluation draws strongly from the conceptual and evaluative framework developed and implemented by Dr. Barbara Starfield, a physician and researcher, at the Department of Health Policy and Management, Johns Hopkins University School of Hygiene and Public Health. She is an expert advisor on the PwC PCR evaluation team and is working with the team to adapt and develop methodological tools specific to PCR in Ontario and the needs of this evaluation.

The Starfield framework assesses primary care reform from both a systemic and patient-provider contact perspective, and is designed to measure four key domains of primary care:

- ***First contact care (utilization and access)*** - defined as care that is accessible and addresses the extent to which the first visit for a new problem is made to the primary care facility.

- ***Longitudinality*** - addresses the goal of primary care for patients to establish a regular source of care that they can call 'their own' and for rostered patients to identify the PCN as their regular source of care. Personnel at a health care facility demonstrate the capacity to achieve this attribute if they are able to identify their patients and to define their enrolled populations.

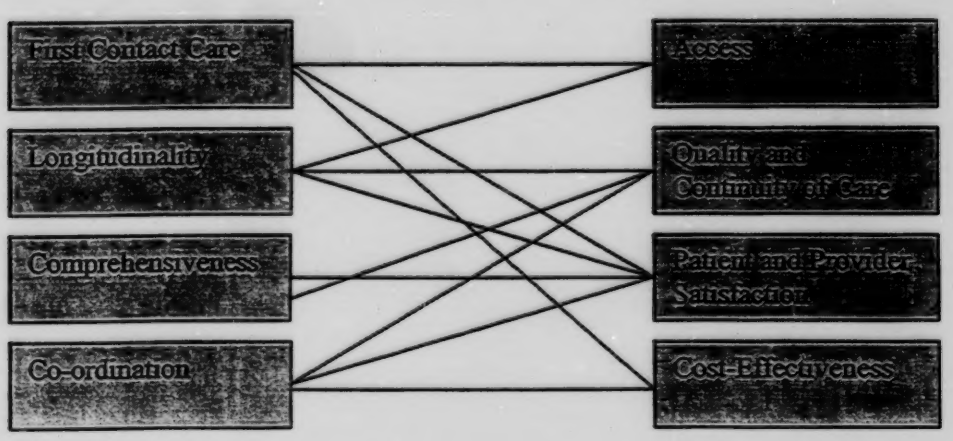
- ***Comprehensiveness*** - defined as a facility's ability to provide services necessary for the well-being of their patients. This includes arranging referrals to secondary, tertiary or supportive services.

- ***Co-ordination*** - encompasses mechanisms of information transfer and the process of problem recognition. Co-ordination of care is most simply achieved through patients interacting with the same practitioner over time. But it may also be achieved through a record keeping system that allows a team of practitioners easy access to important patient information. This requires mechanisms through which patient information can be recorded, saved and easily transmitted and retrieved to ensure recognition of previous visits and referrals and smooth interaction with hospitals, home care and referral networks.

The table below illustrates that each of the four principles has a ***structural*** and a ***performance component***. ***Structural components*** relate to the ability of the health care system to deliver the desired services and ***performance components*** relate to those activities that constitute the delivery and receipt of services. These components will encompass the implementation, process and outcomes of PCR.

Features of Primary Care	Structural Components	Performance Components
Structural and Systems		
Comprehensiveness	Range of primary care services	Service provided compared to needs
Co-ordination	Patient records and other mechanisms to track information	Integration of patient health care within and outside the PCN
Patient-Provider Interaction		
First Contact Care	Accessibility of primary care services	Utilization of primary care services for new problems
Longitudinality	Identification of regular providers	Utilization of regular provider for ongoing health care

The relevance of the Starfield framework to the Ontario context is illustrated in the diagram below. With the exception of cost-effectiveness, the Starfield framework addresses three of the four goals for primary care reform in Ontario.



In addition to the four aforementioned domains, the Starfield framework also includes three ancillary domains:

- ***Family centeredness*** - recognition of family factors related to the genesis and management of illness.
- ***Community orientation*** - the provider's knowledge of community needs and involvement in the community.
- ***Cultural competence*** - the provider's ability to adapt their mode of care for patients from different cultural backgrounds.

A substantial amount of research suggests that primary care systems oriented around these principles produce better health outcomes.

The Primary Care Assessment Tool (PCAT), which includes the Adult Consumer/Client Survey (patient survey) and the Facility/Provider Survey (physician survey), was developed by The Johns Hopkins Primary Care Policy Center. The PCAT aims to measure the extent and quality of primary care services at a provider setting designated by patients as their main source of health care. The surveys are completed both by patients and providers. The patient survey is designed to collect information about their experiences using health care services. The provider survey is designed to collect information about specific operational characteristics and practices related to providing primary care from the viewpoint of provider.

The fact that other provinces (i.e. Nova Scotia and Quebec) are also using the Starfield framework to evaluate their primary care programs and have adapted the PCAT to their needs can be viewed as an added benefit of utilizing this approach.

The evaluation framework provides guidance for identifying and measuring key features and indicators for assessing primary care. Evaluation questions, indicators and measurement tools can be identified for each component of the framework. For this project, we are using the proven survey instruments (i.e. patient survey, physician survey) in conjunction with other data collection instruments described below.

4.2 The Three Phases of this Evaluation

The Ministry defined three phases for this evaluation. Work for the various phases has overlapped. Below is a brief description of the focus of each of the three phases.

4.2.1 Phase 1 - Analytical Description of the Implementation Process

Phase 1 of the evaluation included a descriptive assessment of the background, start up and implementation of PCR. It identified the operational and organizational factors essential to achieving the successful implementation of primary care pilot sites, as well as the obstacles to implementing PCR and how these could be overcome.

This phase also included an assessment of the implementation of PCR in relation to its original design. Phase 1 has been completed and the Phase 1 report was submitted to the Ministry in Spring 2001.

4.2.2 Phase 2 – Evaluation of the Primary Care Reform Process

The focus of this report is on the evaluation of the evaluation of the primary care reform process and it includes an assessment and description of the situation at the pilot sites. This includes managerial, service provision, and patient and provider components. Specifically, we looked at the service mix, staffing, patient characteristics, preventative interventions, IT and telephone triage systems at the pilot sites. Additionally, we assessed the relationship of the PCNs with the rest of the health care system.

Phase 2 includes an assessment of the following components:

- Management and services provided
- Patient and provider satisfaction
- Service mix
- Roles and responsibilities
- Physician and patient use of telephone triage service
- Evolution of management / membership / staffing / services
- IT use
- Linkages with external providers and services

The information collection methods used in Phase 2 are described in section 4.3.1.

4.2.3 Phase 3 - Evaluation of the impact of Primary Care Reform on Outcomes

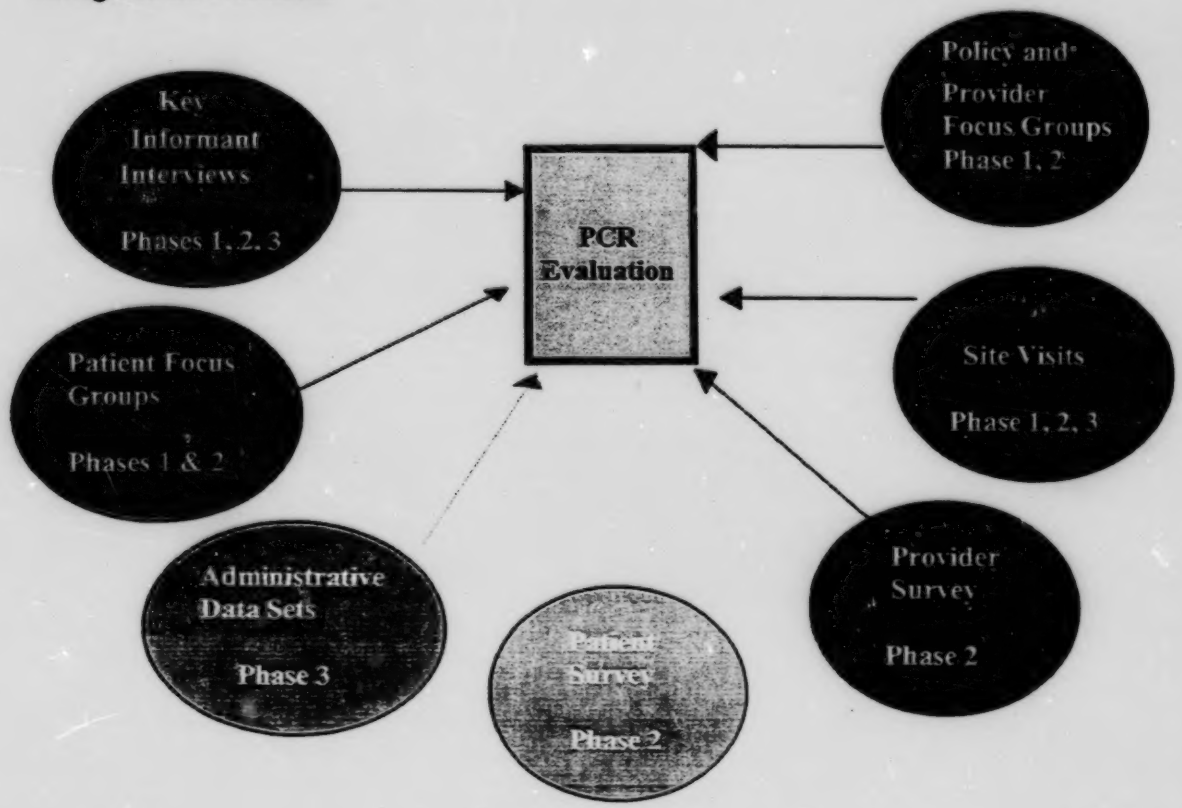
Phase 3 will focus on the impact of primary care reform and answer the question, "has it made a difference?" It will assess whether the goals and objectives of PCR have been achieved, including the impact:

- On processes of care, e.g. co-ordination, duplication of services, drug use and prevention
- On access to care
- On the distribution of physicians
- On patient and provider accountability
- On CME (Continuing Medical Education)
- Of the payment incentives on hiring nurse practitioners
- Of the nurse practitioner on practice and roster size
- Of the payment method on service mix
- Of new management strategies
- Of telephone triage on patient care, emergency room visits and physician practice
- Of PCNs on evolution of reform components over time

4.3 Overview of Data Collection Activities for the Evaluation

The evaluation framework provides guidance for identifying key features and indicators for assessing primary care. In addition, to the PCAT surveys, a number of data collection methods have been employed.

The following diagram depicts the various data collection activities that have been used throughout the evaluation.



4.3.1 Data Collection Activities for the Interim Phase 2 Report

The data collection activities that form the foundation for this Phase 2 (Interim) Report are:

- Interviews with 37 key informants to assess the progress of the ongoing operation of the PCNs, and to identify issues and concerns
- Site visits to each of the 13 active PCNs, 86 interviews with PCN personnel were conducted. During these visits, interviews were conducted with the network leader, a sample of PCN physicians, other health care providers (in the sites that have these) and, in some cases, the office administrator.

- Patient survey. As part of the evaluation, PwC aims to survey 1,700 rostered patients. To ensure a representative sample, quotas were set for each of the four PCR locations – Hamilton, Paris, Chatham and Kingston. The quota of 650 was set for Hamilton and a quota of 350 was set for each of Paris, Chatham and Kingston. Recruitment is continuing and the number of patients recruited varies by site due to the extent of office participation in the rostering initiative and the larger number of offices in some PCNs than others. Because the West Carleton and Parry Sound PCNs have only been operational for a relatively short time, they were not included in the patient survey. The patient control group survey has been completed.
- Provider survey. All physicians in the 13 PCNs were mailed questionnaires at the end of September 2001. To date, there has been a 65% response rate. The provider control group survey will be fielded in November 2001.
- Two patient focus groups with patients of the Primacare PCN
- Review and analysis of Ministry enrolment reports
- Review of relevant background information on the establishment of the primary care pilots
- The ongoing review of literature on primary care

For a detailed description of each of the data collection activities listed above see Appendix D.

4.4 Summary

This chapter outlined the methodology and data collection activities for all three phases of this evaluation (implementation, process and outcomes). Throughout this evaluation, several different data collection techniques have been used to validate the findings.

The evaluation methodology for Phase 2 and 3 centres on the Starfield framework. The Starfield framework addresses many of the goals of primary care reform in Ontario. The framework assesses primary care reform from both a systemic and patient-provider contact perspective, and incorporates four important principles of primary care:

- First contact care
- Longitudinality (patient-focused care over time)
- Comprehensiveness
- Co-ordination

PART C: INTERIM EVALUATION FINDINGS

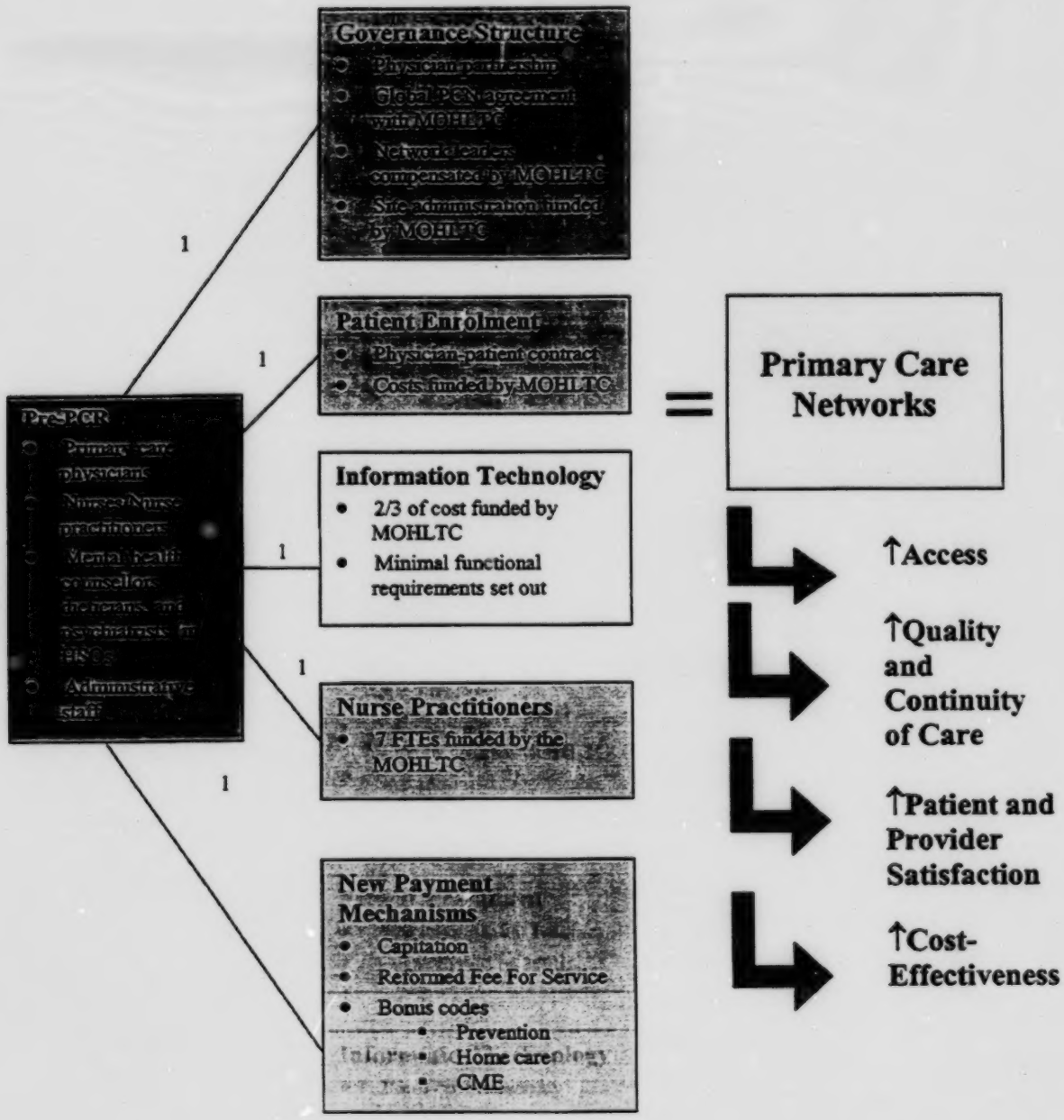
This part of the report describes the evaluation findings gathered through key informant interviews, site visit interviews, documentation review, data analysis, literature review, and preliminary patient survey results.

The findings have been organized under the following headings:

- Overview of each Primary Care Network
- PCN Human Resources
- Nurse Practitioners
- Collaboration and Cooperation Among Network Members
- Physician Compensation
- Use of Information Technology
- Becoming a PCN Patient
- After Hours Arrangements
- Patient Intake, Assessment and Treatment
- Health Promotion and Prevention
- Linkages with Other Providers: Co-operation and Collaboration
- The Patient Experience

The findings provide a springboard for discussion about the impact that components of primary care reform is having on patient access, quality and continuity of care, patient and provider satisfaction and cost-effectiveness. This is illustrated in the diagram on the next page. Following the diagram is a synopsis of the key messages and highlights that will be discussed in this part of the report.

Overview of Primary Care Reform



HIGHLIGHTS OF THE EVALUATION FINDINGS

- Thirteen (13) PCNs are active in six communities: Hamilton (8 PCNs), Chatham, Ottawa, Paris, Parry Sound and Rural Kingston
  - Most PCNs consist of a mix of solo and group practices; there are two single location networks
  - PCNs range in size from 4 to 21 physicians
  - Each PCN has a Network leader who provides leadership in terms of group collaboration, decision-making and administration; they are compensated for their role
  - All PCNs hold group meetings; beyond this, the extent and type of collaboration varies
  - Some PCNs have developed policies and guidelines to guide network decision-making

- As of October 5, 2001, 245,353 patients were enrolled
  - Most patients have noticed little or no change as a result of the reform
  - Patient satisfaction is generally high

- 166 physicians are part of the pilots
  - 30% are former HSO physicians
  - The top five benefits physicians have experienced being part of a PCN are: the lifestyle and practice-style benefits of the capitation model; better care for patients; information technology (IT); increased income; shared call and coverage for absences
  - The top five challenges physicians have faced being part of a PCN are: administrative demands; IT; patient rostering; dealing with the Ministry; negation
  - Physicians have maintained their many responsibilities beyond the PCN (e.g. responsibilities at hospitals and long-term care facilities)

- Seven (7) FTE nurse practitioner positions have been funded for primary care reform
  - Nurse practitioners play a wide variety of roles
  - Role definition and team integration have been a challenge in integrating nurse practitioners into PCNs
  - Patients report very high satisfaction with nurse practitioners
  - High turnover among nurse practitioners is a source of concern
  - Most nurse practitioners have to cover too many offices and physicians

- Former HSO physicians have access to specialized resources (e.g. mental health counsellors, dieticians, psychiatrists); they are extremely satisfied with this service which is of great benefit to their patients; other physicians would like to have access to these resources as well, but they currently do not

- Ten (10) PCNs are using the capitation payment mechanism; 3 PCNs are using the reformed-fee-for-service mechanism

- High physician satisfaction with capitation; preliminary evidence of changed behaviours due to capitation incentives
- Low physician satisfaction with RFFS; little evidence at this stage of changed behaviours
- Roster size and patient profile can influence income; need to ensure that the principle of equal access to PCR for all patients is maintained

➢ Integration of IT varies from network to network and from physician to physician
- There are many examples of successful integration of IT into practice including use of electronic medical records which facilitates identification of patients on recalled drugs, preventive reminders, recalls for patient monitoring, templates for common conditions and physical exams
- While most are using electronic medical records, some are not
- IT is also used by almost all physicians for practice management (billing and scheduling)
- Barriers to further integration include delays in development of certain functions by the MOHTLC (e.g. online enrolment, secure e-mail, drug interaction software), implementation problems, physician readiness, misalignment of stakeholder expectations and reality

➢ For some practices enrolment activities have wound down and the process is no longer a burden; for other practices enrolment continues to be paper-intensive and time consuming
- Roster limits are a concern in areas with a physician shortage
- Physician initiated de-rostering is occurring for a variety of reasons including outside use
- On-line enrolment is still not available
- There is still a need to simplify the enrolment process

➢ All PCNs meeting Ministry requirement for extended hours coverage
- There are many examples of shared call arrangements
- Some PCNs are collaborating on innovative approaches to covering physician absences due to vacation, holidays, illness, CME, etc

➢ Ten (10) out of 13 PCNs using teletriage
- Volume of teletriage calls has exceeded forecast; there were 15,624 calls between September 2000 and May 2001
- Call volumes are low in some communities such as Carlisle and Kingston where patients are used to having direct access to their physician; historically, few Chatham physicians had provided after-hours telephone access to their patients, so they are not promoting the service
- Three newest PCNs do not yet have access to the teletriage service due to contractual issues
- Fewer patients triaged to emergency department than those whose pre-intent was to go to the emergency department
- Linguistic accessibility is an issue for after-hours access

- Primary care reform is encouraging an increased emphasis on health promotion, prevention and patient education through four initiatives: new staff resources (i.e. nurse practitioners), information technology (e.g. preventive reminders), CME fee code, financial incentives (i.e. capitation, bonus fee codes)

- Few new linkages have been forged with community partners; this may be because the PCNs have been very busy and/or because gaps in service make it difficult for physicians to achieve continuity of care.

- Most PCNs have moved beyond the growing pains of implementation and are dealing with issues surrounding the maturing of networks.

- PCNs show promise, but improved planning and implementation of the networks is critical to future success.

5. Overview of Each Primary Care Network

This section provides an overview of each PCN. The information presented in this section will help to answer the following questions:

- When did the PCN get started?
- How many physicians are involved?
- How many offices are included in the PCN?
- How many patients are currently enrolled?
- How does current enrolment compare to the estimated enrolment?
- What is the ratio of physicians to patients?

The statistics used in this section were taken from MOHLTC reports including the PCR Enrolment Status Report as of October 5, 2001.

It is important to define some of the terms used in these reports and in the following section:

Rostering date: The date the PCN signed their PCN agreement.

Active to bill date: The date the PCN started using the PCR payment system.

Estimated Enrolment: The estimated enrolment is the number of patients that each doctor felt were on the 'roster' before joining the network. According to the MOLTC, there are a number of reasons for the differences between the estimated enrolment in the Enrolment Status Report and that contained in Appendix L of the PCN contracts. The Enrolment Status Report is the number of patients that each physician estimated they had when they were joining the PCN. Physicians who were unable to accurately assess the size of their patient load may have erred on the generous side in order not to be caught in the limit of 2,200. In the PCN contract (Appendix L) not all physicians were given a roster limits of 2,200. If a physician estimated their roster size at less than 2,200 patients, their Appendix L roster limit was set at 2,200 so as not to penalize physicians who may have underestimated their roster size. As noted in Appendix L, physicians with roster limits greater than 2,200 at the time they joined the network were granted roster limit exemptions. Thus for many physicians, the estimated enrolment on the Enrolment Status Report is lower than the 2,200 that appears in the PCN Agreement.

Percent of Estimate: Actual enrolment divided by the estimated enrolment

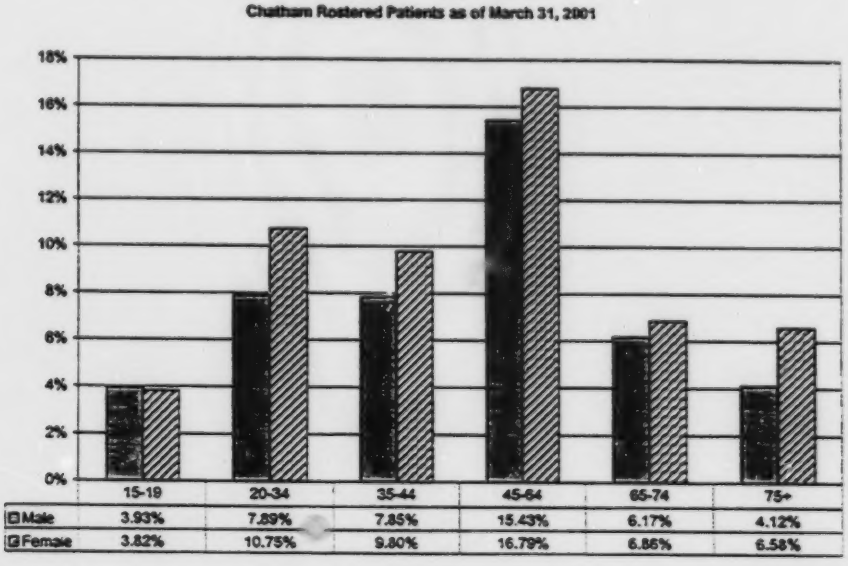
Physician to Patient Ratio: Number of physicians in the PCN divided by the number of actual enrolled patients. This ratio is calculated by dividing the total number of enrolled patients by the total number of physicians in a PCN. Thus the ratio does not account for any possible difference in patient load amongst physicians within a network. In addition, this ratio only refers to enrolled patients.

Processed Enrolments: The number of enrolments processed as of October 5, 2001.

Nurse Practitioner: Registered Nurses with their extended class certification [RN(EC)]. We recognize that the term nurse practitioner may also be used for those with advanced practice nursing skills. For the purposes of our report, we will, however, use the term to only refer to those nurses who have obtained their extended class certificate.

a) Chatham

The Chatham PCN signed their PCN agreement on June 2, 1999. The active to bill date was December 1, 2000. There are currently ten physicians in the network distributed over eight office locations. The Chatham PCN is using the reformed fee-for-service payment mechanism. The estimated enrolment for this network was 25,257 patients. The actual number of processed enrolments is 15,377 or 60.9% of the estimated enrolment. The current physician to patient ratio for this network is one physician for every 1,538 enrolled patients. The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



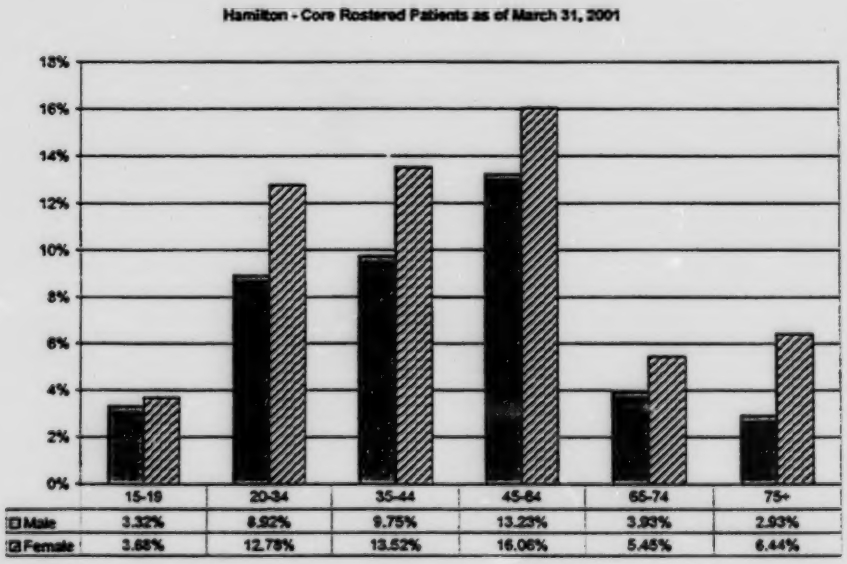
	15-19	20-34	35-44	45-64	65-74	75+
Male	3.93%	7.89%	7.85%	15.43%	6.17%	4.12%
Female	3.82%	10.75%	9.80%	16.79%	6.86%	6.58%

b) Hamilton

There are eight PCNs in the Hamilton area. Each PCN has a *network leader* and there is also an overall *site* leader for Hamilton. There are a total of 117 physicians involved in the Hamilton PCNs, representing 70% of the physicians in the provincial pilots. Fifty of the physicians who got involved in the PCR pilots were former Health Service Organization (HSO) physicians. All but one of these physicians are part of the Hamilton site. All of the PCNs in Hamilton are using the capitation payment mechanism. Information on each of the Hamilton networks is provided below:

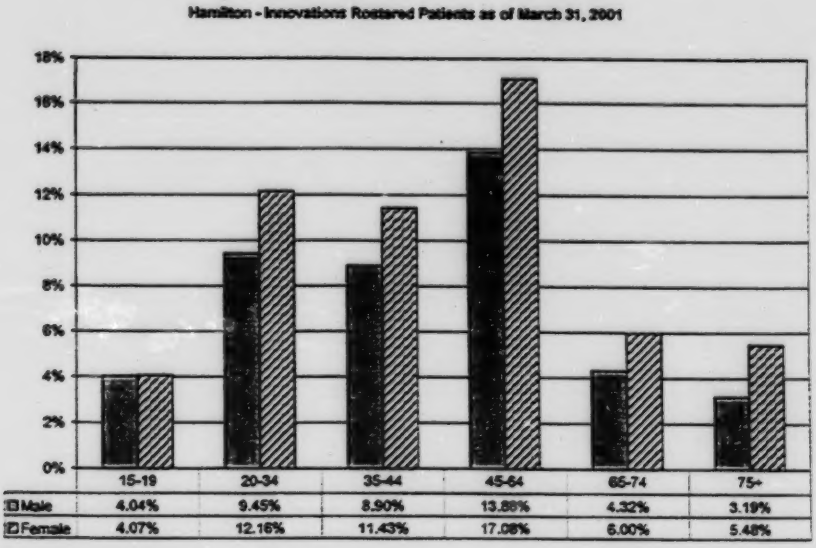
Hamilton - Core

Hamilton - Core signed their PCN agreement on September 1, 1999 and was active to bill on December 1, 1999. There are 16 physicians in this network distributed over five offices. Of these 16 physicians, 69% are former HSO members. There is a nurse practitioner funded through PCR as part of this network. The estimated enrolment for this PCN was 27,483. The actual number of processed enrolments is 23,992, 87.3% of their estimate. The physician to enrolled patient ratio is one physician for 1,500 patients. The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



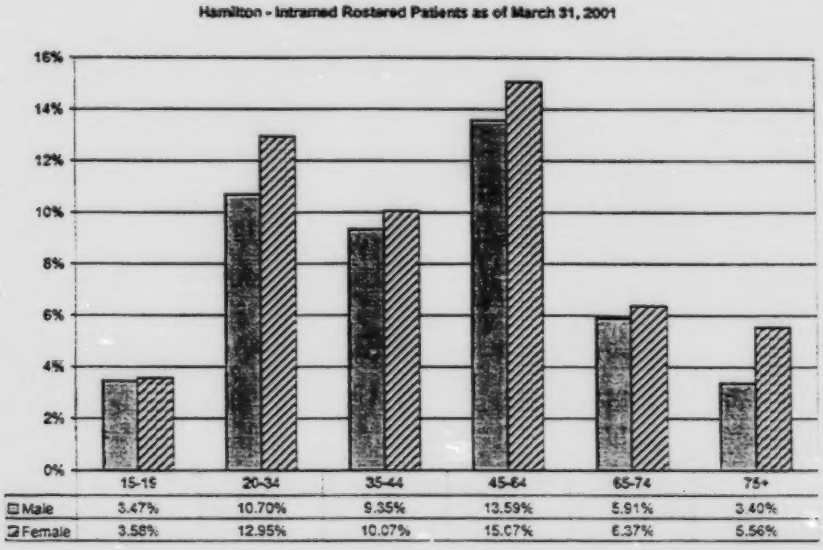
Hamilton - Innovations

Hamilton - Innovations signed their PCN agreement on June 1, 1999 and was active to bill on the same date. As of September 21, 2001 there were 21 physicians in this network, distributed over fifteen offices. Thirty-eight percent of the physicians (8) are former HSO members. There is a nurse practitioner funded through PCR as part of this network. The estimated enrolment was 43,263 and actual processed enrolment is 37,503; 86.7% of the estimate. The physician to patient ratio for this PCN is one physician for 1,786 rostered patients. The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



Hamilton- Intramed

Hamilton - Intramed signed their PCN agreement on October 1, 1999 and was active to bill on the same date. There are 13 physicians in this PCN distributed over 11 offices. Two of the physicians are former HSO members. The estimated enrolment for the PCN was 28,234 and the actual number of processed enrolments was 29,326; 103.9% of the estimate. The physician to patient ratio for this PCN is one physician for 2,256 rostered patients. The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



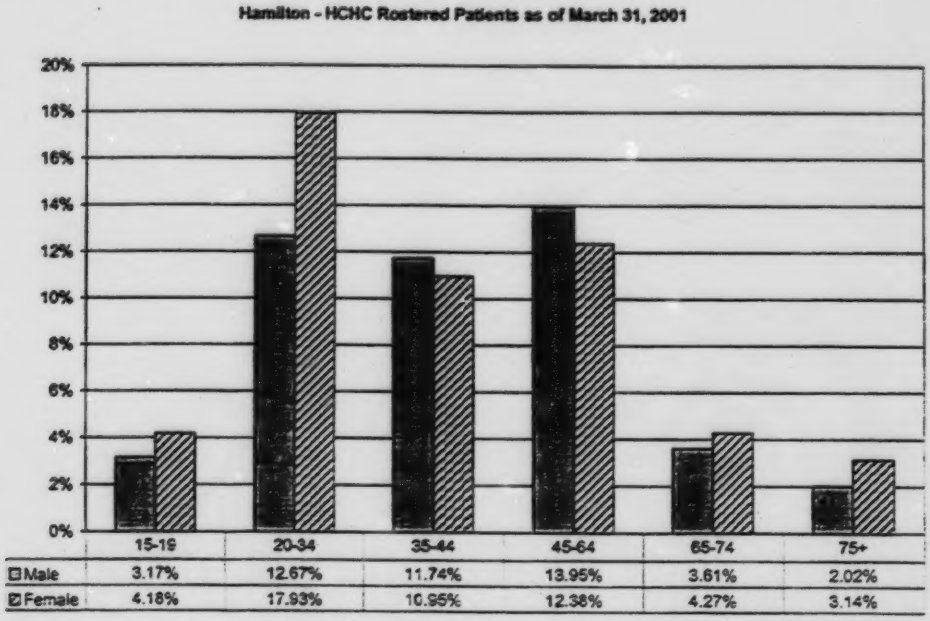
Hamilton - McMaster University

The Hamilton - McMaster PCN signed their PCN agreement on September 1, 2000 and was active to bill on April 1, 2001. There are 17 physicians at this PCN distributed over two offices. Eighty-two percent (14) are former HSO physicians. The estimated enrolment was 18,160. The current number of processed enrolments is 12,273; 67.6% of the estimate. The number of enrollments at McMaster may have been affected by their involvement in the rostering study . The physician to patient ratio for this PCN is one physician for 722 rostered patients. There are nurse practitioners working with the academic physicians in this PCN, but they are not funded through the PCN program. Statistics for rostered patients by age and gender are not available for McMaster because they were not active to bill until after March 31, 2001.

Hamilton Community Health Centre (HCHC)

Hamilton Community Health Centre PCN signed their agreement on February 1, 2000 and was active to bill on the same date. There are seven physicians in this PCN. All of the physicians but one, practice out of the same office location. One physician is a former HSO physicians. The estimated enrolment was 16,800 patients while actual processed enrolment is 9546; 56.8% of the estimate. The physician to patient ratio for this PCN is one physician to 1,364 rostered patients. There is a nurse practitioner funded through PCR as part of this network.

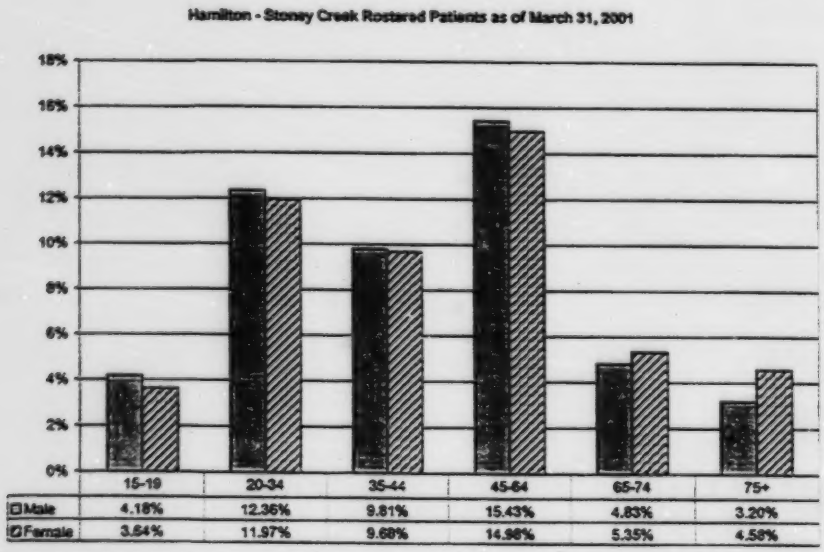
The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



Hamilton - Stoney Creek and Mountain

The Hamilton Stoney Creek and Mountain PCN signed their agreement on September 9, 1999 and was active to bill on November 1, 1999. There are 18 physicians in the network distributed over 11 different offices; Sixteen percent (3) are former HSO physicians. The estimated enrolment for this PCN was 50,205. Actual processed enrolment is 37,829; 75.3% of the estimate. The physician to patient ratio for this PCN is one physician to 2,102 rostered patients. There is at least one nurse practitioner working with some of the physicians in this PCN, but she is not funded through the PCR program. This PCN has also recently accepted three new physicians who are starting to enrol patients.

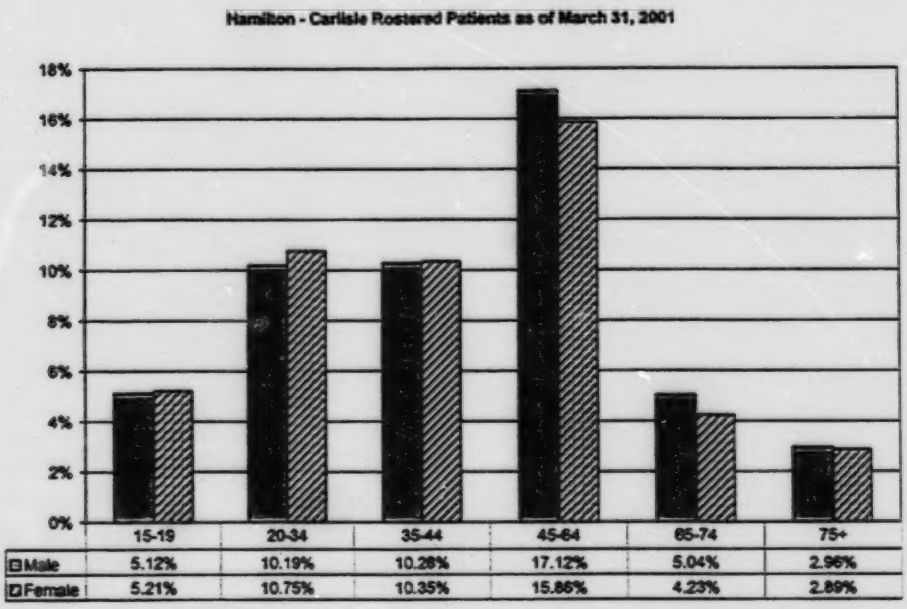
The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



Hamilton - Carlisle

The Hamilton - Carlisle PCN signed their agreement on April 1, 1999 and was active to bill on the same date. There are four physicians in this network, all of whom are former HSO physicians. There is also a FTE affiliate(s) working in the PCN while the network is engaged in physician recruitment. All physicians in this network practice out of the same office location. The estimated enrolment was 9,647 and actual processed enrolment is 8256; 85.6% of the estimate. The physician to patient ratio is one physician to 2,064 rostered patients.

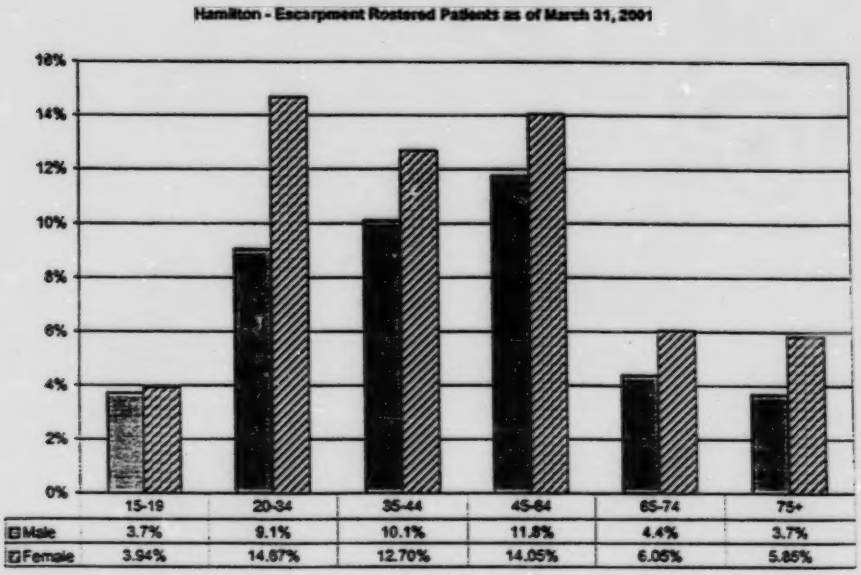
The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



Hamilton - Escarpment

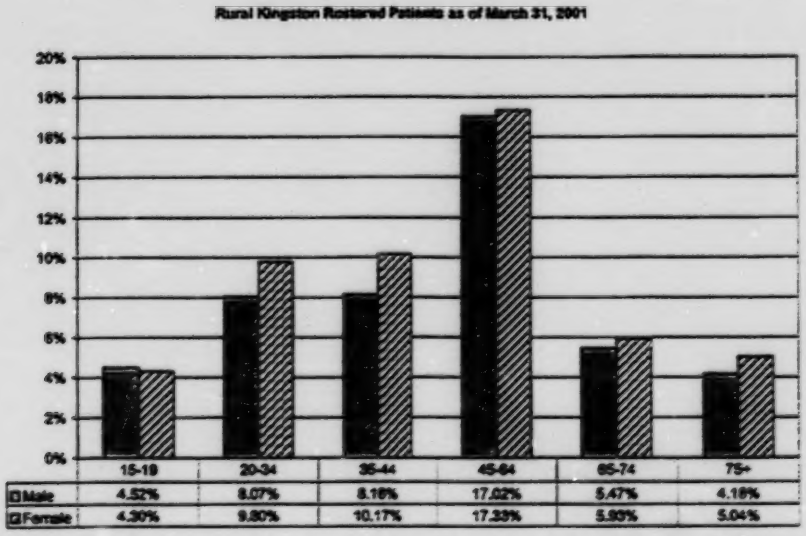
The Hamilton - Escarpment PCN signed their agreement on September 1, 1999 and was active to bill on October 1, 1999. There are 21 physicians in this network distributed over 12 offices. Twenty-nine percent (6) are former HSO physicians. The estimated enrolment for the PCN was 45,871 and the actual processed enrolment is 42,238; 92.1% of the estimate. The physician to patient ratio for this PCN is one physician for every 2,011 rostered patients. There is a nurse practitioner working with six of the physicians in this PCN who practice at the Rosedale Clinic but she is not funded through the PCR program.

The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.



c) Rural Kingston

The Rural Kingston PCN signed their agreement on February 12, 1999 and became active to bill on April 1, 2000. There are ten physicians in this network. Physicians in the Rural Kingston PCN practice out of five offices located in five rural villages: Verona, Sydenham, Sharbot Lake, Tamworth and Newburg. One physician in this network is a former HSO physician. The estimated enrolment for this PCN was 19,704. Actual processed enrolment is 12,521, 63.5% of their estimated enrolment. The physician to patient ratio is one physician for 1,252 rostered patients. There are two nurse practitioners funded through PCR as part of this network, one working with one office and the other is working with two of the offices. This PCN is using the capitation payment mechanism.



d) West Carleton (Ottawa)

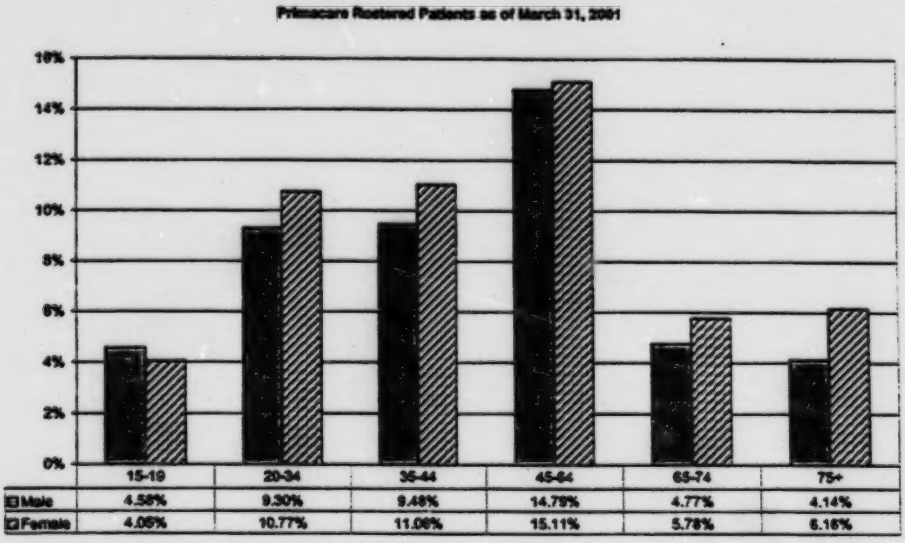
The West Carleton PCN signed its agreement on November 8, 2000 and is not yet active to bill. Six physicians are part of this PCN and practice out of one office location.[3] The estimated enrolment is 13,200 patients and actual processed enrolment is 3,122 which is 23.7% of the estimate. This PCN is still actively undergoing the enrolment process. The West Carleton PCN is using the reformed fee-for-service payment mechanism. Statistics for rostered patients by age and gender are not available for West Carleton because they are not active to bill.

e) Primacare (Paris)

The Primacare PCN signed its agreement on February 14, 1999 and was active to bill on December 15, 1999. There are seven physicians in this network distributed over six offices. There are no former HSO physicians in this PCN. The estimated enrolment was 9,237. Actual processed enrolment is 10,545 or 114.2% of the estimate. The physician to patient ratio for this PCN is one physician for 1,506 rostered patients. There is a funded nurse practitioner position through PCR as part of this network. This position is currently vacant. Two physicians are currently paying out of their own funds for a nurse practitioner on a part-time basis. Recently the Ministry agreed to fund this part-time nurse practitioner while they recruit a permanent nurse practitioner. This PCN is using the capitation payment mechanism.

The following graph shows the percentage breakdown of rostered patients as of March 31, 2001 by age and gender.

[3] This practice also has an outpost where the physicians rotate coverage.



f) Parry Sound

The Parry Sound PCN signed their PCN agreement on March 27, 2001 and is not yet active to bill. There are 16 physicians in this PCN distributed over three offices. There are no former HSO physicians in this PCN.[4] The estimated enrolment for the PCN was 20,500. Actual processed enrolment is 2,825 which is 13.8% of the estimate. This PCN is still actively undergoing the enrolment process. The Parry Sound PCN is using the reformed fee-for-service payment mechanism. Statistics for rostered patients by age and gender are not available for Parry Sound because they are not active to bill.

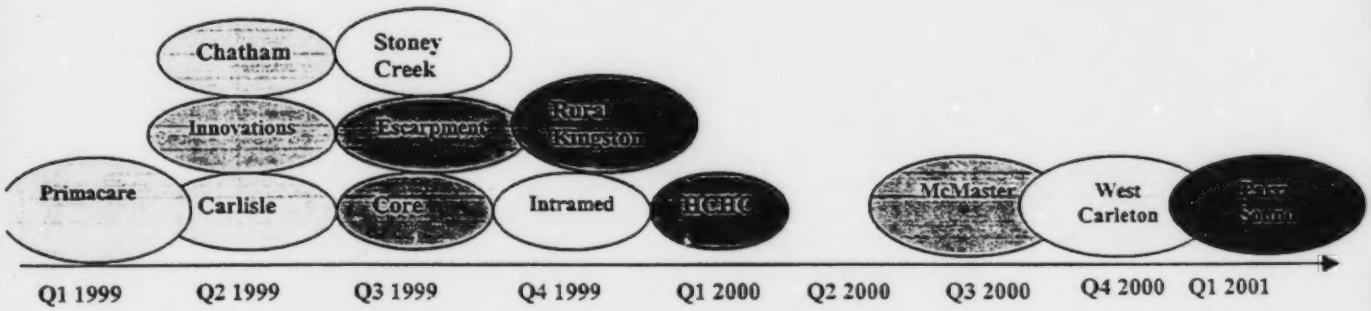
[4] Some of the physicians had been part of an HSO but then went back to a fee-for-service practice prior to joining PCR.

The summary table below presents statistics for all of the PCNs and totals for the province.

Site	Network	Rostering Date	Active to Bill Date	Number of Physicians	Number of former HSO members	Estimated Enrolment	Number of Processed Enrolments	Percentage of Estimated Enrolment Realized	Physician to Enrolled Patient Ratio
Chatham	Chatham	2-Jun-99	1-Dec-00	10	0	25257	15377	60.9%	1538
Hamilton	Carlisle	1-Apr-99	1-Apr-99	4	4	9647	8256	85.6%	2064
	Innovations	1-Jun-99	1-Jun-99	21	8	43263	37503	86.7%	1786
	Core	1-Sep-99	1-Dec-99	16	11	27483	23992	87.3%	1500
	Escarpment	1-Sep-99	1-Oct-99	21	6	45871	42238	92.1%	2011
	Stoney Creek	9-Sep-99	1-Nov-99	18	3	50205	37829	75.3%	2102
	Intra-Med	1-Oct-99	1-Oct-99	13	2	28234	29326	103.9%	2256
	HCHC	1-Feb-00	1-Feb-00	7	1	16800	9546	56.8%	1364
	McMaster	1-Sep-00	1-Mar-01	17	14	18160	12273	67.6%	722
Kingston	Kingston	1-Nov-99	1-Apr-00	10	1	19704	12521	63.5%	1252
Paris	Primacare	12-Feb-99	15-Dec-99	7	0	9237	10545	114.2%	1506
Parry Sound	Parry Sound	27-Mar-01	N/a	16	0	20,500	2825	13.8%	
Ottawa	West Carleton	8-Nov-00	N/a	6	0	13200	3122	23.7%	
Total				**166**	**50**		**245353**		

The thirteen PCNs were established at different points in time over the past three years. Nine out of the 13 active PCNs were established in the 1999 calendar year. Three PCNs were established in 2000 and one was established in 2001. The Primacare PCN was the first to sign their agreement. Their agreement expires shortly (in February 2002). Parry Sound is the newest PCN. The following graphic depicts the different start-up dates for the PCNs.

PCN Start-up Dates



Timeline

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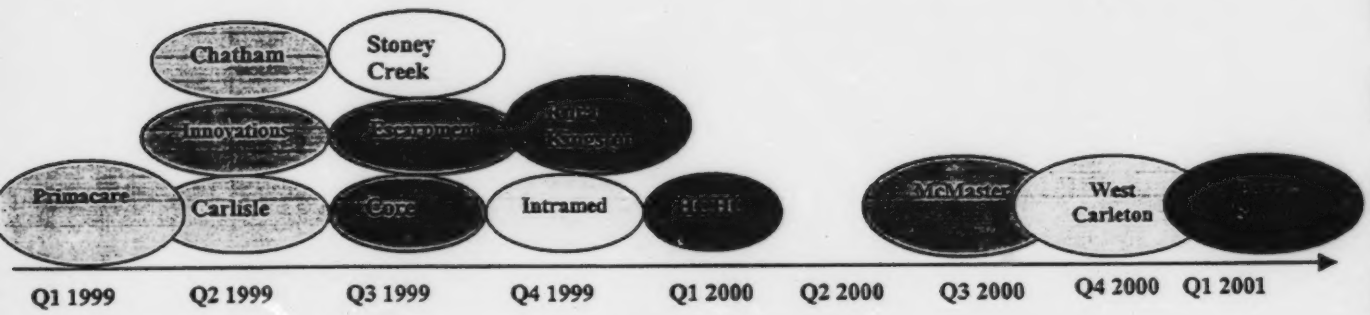
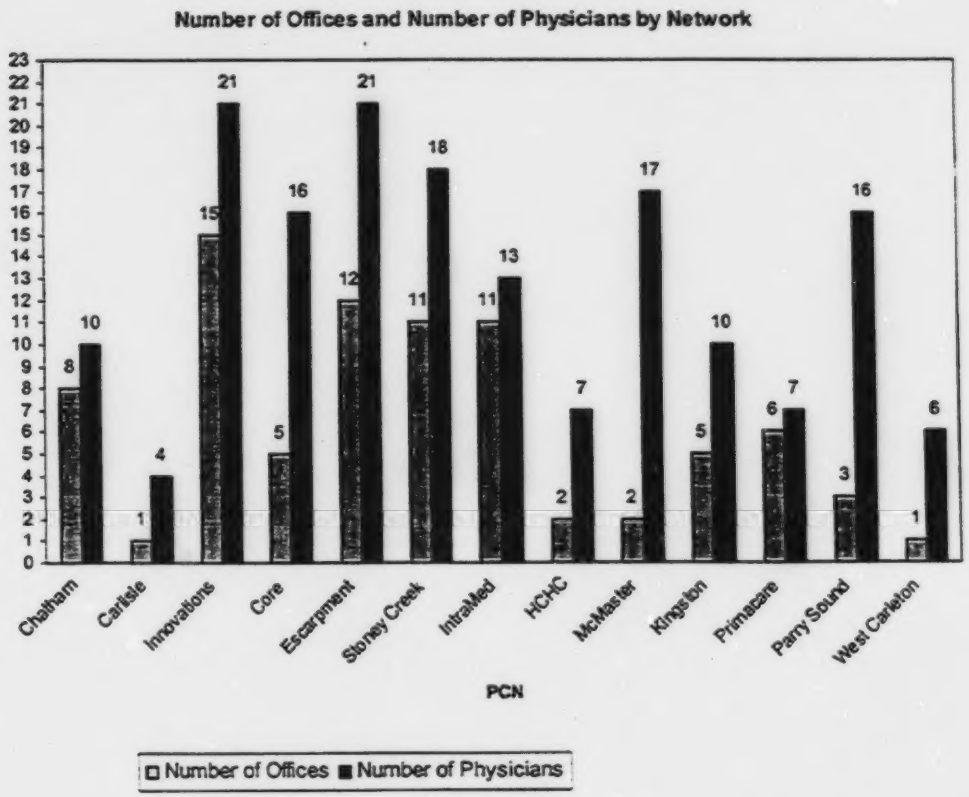


Timeline

Co-location of physicians is not an essential feature of the networks. In two networks, all of the physicians in the network practice under one roof (Carlisle and West Carleton). Other networks consist of a mix of group practices of varying size and solo practices. The following graph outlines the number of offices by network, as well as the number of physicians by network.



6. PCN Human Resources

6.1 Site Leader/Network leader

Each PCN has a designated network leader. Most network leaders have accepted their position for the three-year duration of the pilot. The role of the network leader typically includes:

- Facilitating decision making within the network
- Liaising with MOHLTC
- Assisting physicians new to the network during start-up phase
- Start-up administrative duties (for the newer PCNs)
- Budgeting
- Communication with network members
- Arranging meetings with network members
- Addressing member concerns

Most network leaders, other than those of the two newest PCNs (Parry Sound and West Carleton), have seen a decrease in the number of hours they spent on network activities since the start-up phase. Most are currently averaging two to three hours per week on network leader activities.

The role of network leader is not an easy one. As the networks mature, new issues become apparent. Some network leaders find it difficult to take the time to instruct physicians new to the PCN on issues such as budgeting etc. Other network leaders identified the challenge of moving beyond the implementation phase and creating a sustainable model. Additional challenges include: dealing with the MOHLTC; dealing with potential expansion of on-call groups; negation; and limiting the size of the network to a manageable number of physicians. One of the biggest challenges remains that network leaders are, in most cases, the key point of contact for all information flowing into and out of the network. This responsibility is often difficult to balance with the demands of a busy medical practice.

Many PCNs are at the point where roles in the network could be revisited. Where appropriate, some of the responsibility for leadership could be delegated to others. Some, however, may find this difficult because the network leader is compensated for his or her duties and it may be difficult to divide this remuneration if tasks are delegated.

Compensation remains an issue for some of the network leaders. During the initial 18 months of the network, network leaders were eligible to apply for compensation to a maximum of $2,000 per month for their services and $1,000 per month for site administration. This funding was extended for another 18 months at a maximum of $1,000 per month for their services and $500 per month for site administration. The actual remuneration received varies based on how much was requested by the network leader.

While some network leaders feel their compensation is adequate, others feel it is not enough. One network leader suggested varying network leader compensation according to the size of the network. One network leader claims that he has not received any compensation to date. Network leaders also noted that the process of documenting how they spend their time each month in order to receive compensation is time consuming.

There is a unique situation in Hamilton, because it is the only pilot site with more than one PCN. The eight PCNs in Hamilton create special challenges and opportunities for site co-ordination. The position of site leader has been established in Hamilton to facilitate communication, collaboration and co-ordination among the eight different networks. Regular meetings are held for all of the network leaders to get together. As primary care reform is expanded to other large, urban areas, it will be important to explore this and other models of network co-ordination.

Given the importance of the network leader role, the lack of the attention devoted to developing the skills of network leaders is unfortunate. Most network leaders took on the role out of interest. With very little by way of leadership, managerial and facilitation training, they were expected to be champions of this change. The Ontario College of Family Physicians[5] states that family physicians who are expected to take up this position need to be given training opportunities to enhance their leadership skills. The College quotes a stakeholder as follows:

> *Never underestimate the ability of Family Doctors to get the job done; likewise, never underestimate their ability to undermine a planned change that they do not understand or support. (anonymous)*

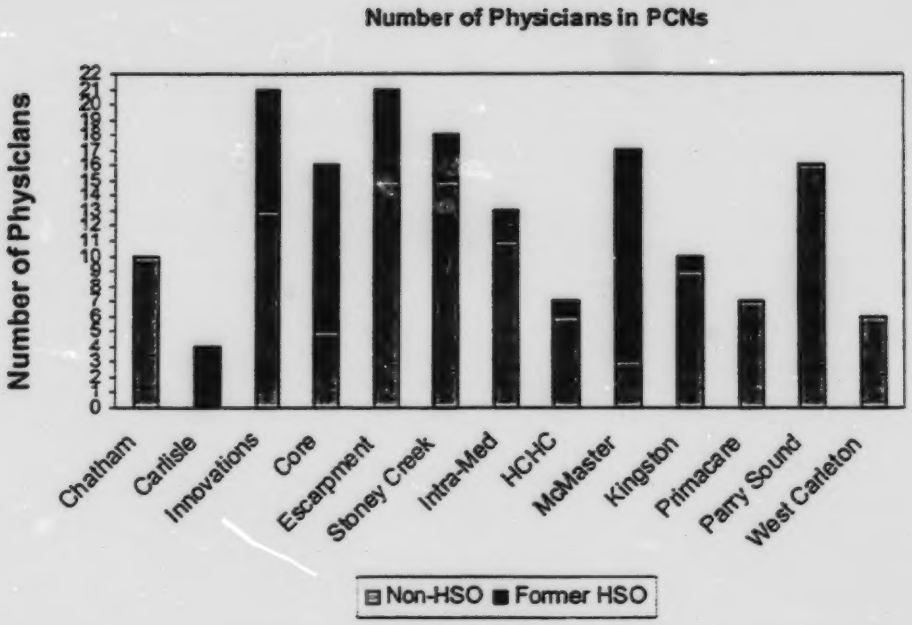
The College recommends that investment be made into leadership and managerial programs that develop family physicians to take on the role of network leader.

6.2 Physicians

There are a total of 166 physicians involved in the 13 active PCNs. The number of physicians in a PCN ranges from four to 21, with an average of 13 physicians per network.

Fifty (30%) of the physicians in the networks are former HSO members. This is substantially higher than the provincial average for HSO physicians of 2.2%. The Hamilton McMaster PCN has the highest number of former HSO members and Carlisle is the only PCN entirely composed of former HSO physicians.

[5] "Ensuring Success for Ontario's Family Health Networks - Leadership, Innovation, Accountability & Connectivity in Family Medicine" (Ontario College of Family Physicians, June 2001)



Very few physicians have left the PCNs since they were introduced. To date, no physician has left a network due to dissatisfaction with primary care reform. Twelve physicians have joined existing networks since the PCNs were established. Many of the Hamilton PCNs continue to have expressions of interest from physicians wishing to join their network.

Three of the pilot sites - Chatham, Paris and Parry Sound - are located in areas of the province that have been designated by the Ministry as underserviced.. Physicians in other pilot sites (e.g. Hamilton) also report that there are insufficient family physicians in their community.

We asked physicians in the PCNs whether, thinking back to why they originally decided to participate in a PCN pilot, their expectations had been met. A slim majority stated that their expectation has been met. A high number, however, stated that their expectations had not been met. In some cases, especially for physicians in the newer PCNs, they felt it was too soon to be able to determine this. Some physicians in the older PCNs continue to experience dissatisfaction with components of the PCR experience.

The five key benefits physicians have experienced as a result of being part of a PCN are:

- Stable income and lifestyle benefits of the capitation model
- Better care for patients
- IT (i.e. having it in place and having it partially funded by the MOHLTC)

- Increased income
- Extended hours of call (i.e. sharing call and being on call less frequently)

The five key challenges physicians have faced as being part of a PCN are:

- Administration
- IT
- Rostering
- Dealing with the MOHLTC
- Negation

6.3 Nurses

Nurses play a prominent role in all of the PCNs. Most, but not all, physician practices include at least one nurse. Nurses assist with many aspects of primary care delivery. Some nurses have advanced training and function, to some extent, in the role of a nurse practitioner. Such nurses may take on additional roles such as health promotion counselling, breast-feeding education and parenting education.

Nurse practitioners are part of some of the PCNs. Their role is discussed in Section 8.

6.4 Other Health Care Providers

The press release announcing the provincial roll-out of Family Health Networks highlighted the proposed role of multidisciplinary teams:

> *"Making sure people can get professional medical advice - where and when they need it - is the driving force behind our Family Health Networks," said Harris. "These networks are an important part of our overall plan to create a system that delivers convenient, quality health care, closer to home." Family Health Networks will be led by doctors, working with nurses and other health-care professionals, to provide access to care or advice, 24 hours a day, seven days a week. (MOHLTC Press Release, March 21, 2001.)*

In reality, access to other care providers such as dieticians and mental health counsellors in the PCNs is limited. The notable exception is former HSO practices in the PCNs who were permitted by the Ministry to keep their funding for the multidisciplinary team resources. One example, in Hamilton, is the 'Hamilton HSO Mental Health and Nutrition Program' which administers a program that provides current HSO physicians and current PCN physicians who were formerly Hamilton HSO physicians with grant funding with which to access mental health counsellors, dieticians and psychiatrists.[6]

[6] The Hamilton HSO Mental Health and Nutrition Program is not the only ISP grant funded program in Hamilton.

Physicians receive funding to pay these workers who function as independent contractors. The resources are welcome.

> *Its superb. Just phenomenal. Without it I would have to limit my practice to about 400 patients. (PCN Physician)*

The following section outlines the roles of each of these providers.

Mental Health Counsellors: Mental health counsellors are heavily utilized. There is one mental health counsellor for every 7,000 to 8,000 patients. Patients are referred by the physician. Counsellors provide assessment, counselling and crisis interventions to PCN patients. They act as an educational resource for patients, their families and PCN staff. In addition, they liase with community agencies and assist patients in obtaining services.

Dieticians: Dieticians are also heavily utilized. They see on average 40 to 100 patients each week. Patients are either referred by the physician or self-refer. They provide counselling to patients with diabetes, cholesterol and weight concerns. One dietician reported that she had administered a patient satisfaction survey and that patients reported they were very satisfied with her services.

Psychiatrist: Through this program there is a half-time psychiatrist available to each physician per month, who is available for consultation, short-term care, case discussion or follow-up on cases that have been seen in the past. The ability to easily consult with a psychiatrist has been a benefit to the physicians.

In addition, laboratory support services are provided in some physician offices.

6.4.1 Funding Concerns

It is important to note that the HSO Mental Health and Nutrition Program is only available to former HSO physicians. Former FFS physicians, who are part of the same network, do not have access to these resources. This has been identified as a concern.

Many physicians feel that the Program should be expanded to include all PCN physicians in order to provide all PCN patients with equal access to these valuable specialized resources. Many physicians across all of the networks have also identified the need for other health care providers such as dieticians, mental health counsellors and physiotherapists. Physicians indicated that they did not feel it was their role to advocate for multidisciplinary resources and that they should be built into the model.

6.4.2 Stakeholder concerns

For some stakeholders, the lack of multidisciplinary team involvement remains a key disappointment of primary care reform. Many stakeholders observed that "its just about doctors".

> *What is being called primary care reform is not experimenting with interdisciplinary teams or different ways of practicing medicine. (Member of Stakeholder group)*

6.5 Administration/Administrative Staff

Administrative staff continue to be the backbone of the office management function in the PCNs. Although the administrative function varies from office to office, it generally involves managing the day-to-day operations of the office, scheduling, rostering and billing. Involvement in the latter two functions varies depending on the stage of implementation and uptake of IT. In some offices, physicians have become, to a large extent, self-sufficient and do their own electronic billing and in some cases their own scheduling. Other physicians continue to write their billings by hand and rely on administrative staff to enter this information into the system.

Some administrative staff also have specific PCN roles such as attending PCN meetings, developing PCN budgets, liaising with the MOHLTC, establishing an enrolment process and preparing applications for funding.

6.6 Summary

In this section, we outlined the roles and experiences of the care providers in the pilot sites. Nurse practitioners are discussed in Section 8.

Physicians continue to be the dominant care provider in the pilot sites. There are 166 physicians in the pilots. While many physicians felt that PCR has met their expectations, a high proportion felt that it had not. Physicians report both challenges and benefits related to being part of a PCN.

It is interesting to note that one of the five key benefits (and in fact the one most often cited as a benefit) was the benefit attributed to being on capitation such as stable income, the ability to spend more time with certain patients, the ability to take vacation without financial penalty, etc. Information technology continues to be reported as both a top benefit and a top challenge.

As noted above, access to other providers is limited in the PCNs and seemingly determined by access to specific funding sources outside of PCR, such as HSO funding. Thus, physicians who have access to such resources feel these resources improve access, quality and continuity of care. If the vision for the Family Health Networks, as outlined in the above mentioned press release, is that of a multidisciplinary team of care providers, then a concerted effort must be made to overcome the above noted barriers to this vision.

7. Nurse Practitioners

There are currently seven full-time equivalent (FTE) nurse practitioner positions budgeted as part of primary care reform. These positions are at the following PCNS: Core, Innovations, Hamilton Community Health Centre, Primacare and Rural Kingston. Due to a turnover in staffing not all of these funded positions are currently filled. An additional 2.3 FTE nurse practitioner positions have been funded through Institutional Substitution Program grant funding to former HSO members. Some PCNs have paid for nurse practitioners out of their own funds.

In this section we examine the issues surrounding nurse practitioners in the pilot sites. As noted earlier in the report, the term nurse practitioner applies only to those nurses who have their extended class certificate.

7.1 Role of Nurse Practitioners

In the Phase 1 report, we outlined the role of nurse practitioners in the PCNs. Nurse practitioners continue to play an important part in the delivery of patient care. Many nurse practitioners conduct well-baby visits, well-women exams, home visits, frail elderly visits and diabetic care in addition to general primary care. They are involved in patient education such as smoking cessation seminars, nutrition counselling, osteoporosis seminars and diabetic education. They do preventive health care such as pap smears and blood pressure checks. In addition, some nurse practitioners share in the call responsibilities and take one call shift per week. The role of the nurse practitioner has been driven by the specific needs of the PCNs and there is significant variation in what nurse practitioners do.

Practices that have nurse practitioners or that would like to have nurse practitioners feel they are an asset to the team and are a useful resource for seeing patients, and doing health promotion and prevention activities. Many male physicians like to have the nurse practitioners assist with their female patients and do such tasks as pap smears, well-women exams, sexual counselling etc. In many instances, nurse practitioners have been well received by physicians. According to one physician:

> *I personally feel that a nurse practitioner could do two-thirds of a family physician's job. (PCN physician)*

In one network, even though the nurse practitioner is no longer part of the network, her skills are so sought after that two physicians use their own funds to pay for her services a few days a week.

7.2 Consultative versus Collaborative

Nurse practitioners within the pilot sites are practicing, for the most part, under a consultative role rather than a collaborative role. Under a consultative practice model, care is transferred from physician to nurse practitioner and then back to the physician.

Literature would suggest that the preferred practice modality is that of a collaborative practice model.[7] Collaborative practice has been defined as:

> *an inter-professional process for communication and decision making that enables the separate and shared knowledge and skills of care providers to synergistically influence the client/patient care provided.*[8]

Way and Jones state that:

> *Collaboration is a way of working, organizing, and operating within a practice group or network in a manner that effectively utilizes the provider resources to deliver comprehensive primary healthcare in a cost-efficient manner to best meet the needs of the specific practice population. Successful collaboration benefits patients, providers and the healthcare setting...Collaborative relationships are based on provider equality. The relationships are not hierarchical, nor are they dependent upon the supervision of one professional group by another. Likewise, collaborative practice is neither a "physician replacement" nor "physician extender" model. The model recognizes the strengths and integrity of each of the professional partners' approach to care delivery.*[6]

Way and Jones have examined the collaborative model and the importance of educating the provider team on how this model functions.[9] The purpose of their research was to develop, implement and evaluate an intervention to support nurse practitioners and family physicians in a collaborative practice. Components of the intervention included a self-instructional guide, small group discussions and follow-up contacts. Preliminary findings indicate that the intervention sites had an improved use of nurse practitioner extended role skills and less referrals to family physicians by nurse practitioners.

Many nurse practitioners expressed the desire to engage in a collaborative practice with PCN physicians. One nurse practitioner has actually taken the initiative to conduct her own education intervention and has outlined the differences for physicians of a consultative versus collaborative model of care. It will be interesting to monitor the results of this intervention.

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[7] Way, Jones and Busing, "Implementation Strategies: "Collaboration in Primary Care, Family Doctors & Nurse Practitioners Delivering Shared Care" (OCFP, May 2000)

[8] Ibid, pg 3.

[9] Way and Jones, "Nurse Practitioner/Family Physician Collaborative Practice- Let's do it" (September, 2001)

7.3 Nurse Practitioner Issues

Despite the important role that nurse practitioners play in the PCNs, many of the issues we highlighted in our Phase 1 report continue to be a source of concern from a nurse practitioner, as well as a physician perspective.

7.3.1 Abilities and Role of the Nurse Practitioner

If the purpose of having nurse practitioners as part of primary care reform is to facilitate the goal to improve access to and improve quality of care, it is essential to understand the capabilities of nurse practitioners to deliver primary care services. It is also important to recognize the perceptions of these capabilities.

In our Phase 1 report we reviewed the legislated scope of practice of nurse practitioners. Issues surrounding scope of practice are problematic in some of the PCNs. Some nurse practitioners felt that they were asked to see patients outside of their scope of practice. Sometimes this was attributed to office staff not being familiar with what nurse practitioners could and could not do. Nurse practitioners as well as some physicians, felt that everyone including physicians need to be educated about what types of patients are within and outside of the nurse practitioner's scope of practice.

Physicians are divided over the value of the role of nurse practitioners. Those physicians who have nurse practitioners or who would like to have a nurse practitioner feel that they are an asset to a primary care practice. They feel that the nurse practitioner may be able to offer patients more time and spend more time on preventative health care measures. Some were glad to have a nurse practitioner who can see patients when the physician was overbooked. One PCN has their nurse practitioner set aside one day per week to see walk-in and same day appointments.

Many physicians, however, are not comfortable with having nurse practitioners in their practice. Some physicians expressed concern over the abilities of nurse practitioners (either generally or the specific nurse practitioners in their PCN). Concerns were expressed over the skills, and their limited scope of practice.

> *I know what they are capable of and I don't trust them as "mini-doctors" (PCN physician)*

One physician commented that if the nurse practitioner regularly goes to him with questions like a resident, then having a nurse practitioner is not beneficial to the practice. Another physician commented that the nurse practitioner in his PCN was too comprehensive and spent too much time trying to diagnose simple ailments. Other physicians recognise that the success of the nurse practitioner role may lie in the expertise and abilities of the individual nurse practitioner.

In addition, some physicians felt there was no real role for a nurse practitioner in their practice. These physicians were less willing to part with tasks commonly carried out by nurse practitioners such as well-women and well-baby exams and preferred to do them themselves. A few physicians we spoke with were not interested in passing off "routine" tasks to the nurse practitioners. They pointed out that health promotion and annual exams are part and parcel of primary care and should be conducted by physicians as well as nurse practitioners. Some expressed concern that having nurse practitioners conduct these tasks will result in general practitioners becoming specialists and losing the ability to be family physicians. Some physicians who were not in favour of having a nurse practitioner said they were not interested in only doing "intensive" work while the nurse practitioner saw the "easier" patients.

7.3.2 Integration in the Multidisciplinary Team

In our Phase 1 report, we highlighted the concerns expressed by nurse practitioners over their lack of integration into the multidisciplinary team. These frustrations continue to be expressed by some of the nurse practitioners in the PCNs, as well as those who have recently left.

In some cases, the nurse practitioner has become an integral part of and an asset to the team. In others, the nurse practitioner has not found a "niche" as part of the team. Some physicians found it difficult to fit a nurse practitioner effectively into their practice Some physicians who had experienced nurses in their practice, did not see the need for a nurse practitioner. In fact, one network with a nurse practitioner and nurses reported a great deal of friction between the two groups. Another concern was that it would be too difficult to train office staff to effectively triage patients to the nurse practitioner rather than the physician. In the future, it would be helpful for triage guidelines to be developed by nurse practitioners or the Nurse Practitioner Association of Ontario (NPAO).

From the nurse practitioner perspective, lack of integration into the team has been a source of disappointment with the PCR experience and for some, the cause of their departure from the network. One nurse practitioner commented that she joined the PCN thinking it would provide a team environment but now feels that the PCN is just a business arrangement.

7.3.3 Tracking Effectiveness of the Role

There is some concern that indicators have yet to be established to truly determine if nurse practitioners are effective in a primary care practice. Nurse practitioners are issued identification numbers for referral purposes; there are not issued billing numbers. As a result, there is no way to keep track of other types of primary care services provided by nurse practitioners, such as well-baby and well-women exams.

Ideally, IT could have been used to track nurse practitioner activities in the same way IT is used to track physician activity. This benefit has not yet materialized. Firstly, IT has not been fully implemented at all the sites. Even where IT has been implemented, some nurse practitioners have not been given full access to the systems. As highlighted in our Phase 1 report, in some instances, licences were not purchased for nurse practitioners. In other cases, nurse practitioners operated on different systems than the physicians. As nurse practitioners do not have their own series of billing codes, it is often difficult to effectively electronically track nurse practitioner interventions. In their annual evaluation report to the MOHLTC, nurse practitioners in the pilot sites were asked to provide statistics on items such as the:

- Number of patients seen
- Number and type of immunizations
- Number and type of screenings
- Number of referrals to specialists
- Number of referrals to rehabilitation professionals
- Number of referrals for tests
- Number of referrals to the ER

Many of the nurse practitioners could only estimate these numbers. For example, one nurse practitioner pointed out that she could not accurately state how many patients she had referred to the Ontario Breast Screening Program because the patient's name is linked to the physician not the nurse practitioner.

A few solutions have been proposed. One nurse practitioner suggested that nurse practitioners work with IT vendors to develop templates specifically for nurse practitioners. Nurse practitioners in Hamilton have now developed their own IT programs, templates and mechanisms for tracking activities.

Lack of accurate statistics makes it difficult to properly assess the effectiveness of the nurse practitioner role in the PCNs. If data were more easily accessible across the PCNs it may assist in convincing some physicians of the potential value of the nurse practitioner role.

7.4 Funding

Funding of nurse practitioners continues to be an issue in the PCNs.

7.4.1 Nurse Practitioner Perspective

From the nurse practitioner perspective, control over funding equates to control over one's practice. In other words, many nurse practitioners feel that as long as they are paid by and employed by physicians (even if the actual funding for the position comes from

the MOHLTC), they remain under physician control. By being employees of the physician, many nurse practitioners do not feel that they are treated as equal partners in primary care and an integral part of the multidisciplinary team. In their submission to the Ontario Family Health Network Agency,[10] the NPAO has recommended that nurse practitioners not be employees of family physicians. Such a relationship does not support a collaborative practice model. The NPAO recommends that a centrally incorporated agency should manage nurse practitioner salaries and benefits. The NPAO's perspective is that nurse practitioner salaries must be competitive with those of their hospital-based colleagues. The NPAO recommends that salaries for nurse practitioners in family health networks start at $70,000 to $80,000.[11]

7.4.2 Physician Perspective

The physician perspective on funding is slightly different. The vast majority of physicians felt that nurse practitioners should be funded by the government. Even those physicians who have nurse practitioners in their PCN and were supportive of the role, felt that if they had to pay for a nurse practitioner out of their own funds they would not hire one (with the exception of the few physicians who are paying out of their own funds for a part-time nurse practitioner).

Part of the reason that many feel the government should pay for nurse practitioners is attributed to the salary levels for nurse practitioners. Those practices without a nurse practitioner felt that having one would be nice, but saw it as a luxury they could ill-afford.

Even those PCNs who valued the contribution of nurse practitioners did not feel that they could afford to pay for them in the absence of government funding.

Many physicians, especially those with nurse practitioners, felt that there was a significant benefit to having them in the practice. Some physicians, however, did not feel that there were sufficient incentives for them to have a nurse practitioner in their practice. For some physicians, it appears more practical to take on another physician who could share expenses rather than pay for the salary of a nurse practitioner who would not contribute to office expenses nor add to the office revenue.

Under the terms of the Global Agreement, the addition of a nurse practitioner to the practice permitted physicians to increase the size of their roster by 800 patients. Under a capitated payment mechanism, this would result in increased income. Using an average capitation payment of $150 per patient multiplied by 800 patients would result in increased income of approximately $120,000. Theoretically, the nurse practitioner would be able to service these additional patients and thus there would be some incentive to add a nurse practitioner to a practice.

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[10] "Submission to the Ontario Family Health Network Agency- Supporting and Sustaining Nurse Practitioners as Part of the Ontario Family Health Networks",(NPAO, August, 2001)

[11] Ibid

Under the RFFS mechanism, the addition of 800 extra patients to the roster would result in a higher benchmark threshold. Nurse practitioners appear even less viable from a financial perspective under the RFFS payment scheme. Because RFFS physicians bill directly for their services, having a nurse practitioner conduct a well-baby assessment, for example, would result in lost income for physicians, as physicians cannot bill for the services provided by the nurse practitioner. There are currently no nurse practitioners working in PCNs using the RFFS payment mechanism.

7.5 Cost Effectiveness of Nurse Practitioners

There is no definitive evidence on the economic impact of nurse practitioners in the PCNs. A cost-effectiveness analysis should include measurements of outcomes and include elements such as effectiveness of care, safety of care and patient satisfaction. From a cost benefit perspective one needs to determine to whom the benefits are accrued: the physician, patient or society. But even from a purely cost perspective in impact is unclear.

From a physician as payer perspective, nurse practitioners have not been deemed cost effective. PCNs with a nurse practitioner are able to increase their roster size by 800 patients. As stated above, this could amount to approximately $120,000 a year. The salary range for nurse practitioners is $70,000 to $80,000.

But, physicians say that in addition to paying nurse practitioners' salary, they need to provide benefits, equipment and space. As well, there are additional costs of outreach activities, include materials and travel time. Few find this a feasible option. Adding an additional physician to their practice does not create these costs and allows for another to cover office expenses.

From a systemic point of view, the costs of adding an nurse practitioner to a physician's practice would still include the costs listed above, but a comparison with the cost of providing care to that physician's patient population were the nurse practitioner not present is required.

Nurse practitioner contribution needs to be assessed in terms of their productivity vis à vis a physician, the proportion of a physicians patients that can be delegated to an nurse practitioner, and the impact of nurse practitioners on the number of physicians required.

Importantly, an analysis of the cost impact of nurse practitioners needs to determine the extent to which the nurse practitioners are alternative or substitute care providers, and how much of their contribution relates to complementary services.

In some studies, nurse practitioners were not found to save money because they provided both alternative and complementary services, resulting in longer consult times, more tests and more follow-up. However, in their role as counsellors, patient satisfaction and, in some cases, outcomes improved.[12] [13] However, the Netherlands study showed a lower cost for nurse practitioner care had they played a purely substitution role. One quarter of their contribution was substitution, 37% was complementary and 37% was both.

In a study in Texas, the total cost of episodic care for acute primary care condition is lower when managed by a physician assistant. These findings remained consistent when the researchers controlled for patient attributes, health status and resources used in provision of care. Physician assistants were shown to be cost-effective, as well as cost beneficial to their employers.[14]

Another study in the United States shows that nurse practitioners and physician assistants provide 60-90% of office-based primary care and follow-up. Results show an impact on physicians' ability to provide more acute and sub-speciality care. This had an impact both on cost effectiveness and access to care. Team relationships and skill mix were also found to contribute to effectiveness of nurse practitioners.[15]

7.6 Satisfaction Level

Despite the above-mentioned concerns, satisfaction levels remain high among the nurse practitioners who are currently in the pilot sites. Of the four nurse practitioners surveyed, the average satisfaction level is 7 out of 10 with 10 being extremely satisfied. In addition to the four nurse practitioners surveyed, 50% are more satisfied with their current employment than their pre-PCR position.

These satisfaction levels, however, are based on those nurse practitioners remaining in the pilots. There has been a high turnover among nurse practitioners. Since our Phase 1 report, three nurse practitioners have left their positions. When their views are taken into consideration, satisfaction levels are much lower.

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[12] Sibbald B. et al., National Primary Care Research and Development Centre, University of Manchester, "Physician substitution." International Health Economics Association, Third International Conference. July 22-25, 2001, York, United Kingdom.

[13] Hermens R et al., Centre for Quality of Care Research, The Netherlands, "Changes in the workforce: doctor-nurse substitution in the Netherlands." International Health Economics Association, Third International Conference. July 22-25, 2001, York, United Kingdom.

[14] Hooker R. University of Texas Southwestern Medical Center. "Examining the cost-effectiveness pf physician assistants." International Health Economics Association , Third International Conference. July 22-25, 2001, York, United Kingdom.

[15] Cooper R. "The US health care workforce in the 21st Century: the impact of non-physical clinicians." International Health Economics Association, Third International Conference. July 22-25, 2001, York, United Kingdom.

Preliminary data suggests that satisfaction remains high among patients as well. In June 2001, we held two patient focus groups in Paris, Ontario with patients recruited from the Primacare PCN. Patient reaction to nurse practitioners was positive. Among those who had seen a nurse practitioner, there was great satisfaction and trust in the care received. It was noted that nurse practitioners often had more time to spend with patients than the physicians. For women in particular, there was greater comfort with a nurse practitioner for annual check-ups. Overall, patients accept the role of nurse practitioners as part of the operation of the PCNs, and in fact, participants felt this role could be expanded.

Eighty-three percent of Canadians in the Health*Insider* No 5, Spring/Summer 2001[16], compared to only 72% in 1999, said they would be willing to see a trained nurse practitioner instead of a doctor for minor illnesses, such as colds, sore throats, allergies, etc.

7.7 Summary

Through PCR, seven full-time equivalent positions have been funded for the pilot sites. The integration of nurse practitioners into PCNs continues to be problematic. Although satisfaction levels among nurse practitioners in the PCNs are generally high, problems of role definition and lack of integration remain. Concern continues to be expressed over funding of nurse practitioners, with most physicians agreeing that they would not pay for nurse practitioners out of their own pocket, thereby calling into question the sustainability of the role in the absence of continued government funding. In addition, the fact that three nurse practitioners have left since our Phase 1 report was submitted reflects general discontent with how the role is being implemented.

Many of these concerns stem from the fact that nurse practitioners are, for the most part, practising in a consultative role, rather than in a collaborative practice role. Literature suggests that the latter is more suitable for achieving primary care reform goals of access and quality of care.

Preliminary results from focus groups and statistics gathered by nurse practitioners reveal that nurse practitioners are having an impact on the quality of care provided. However, many challenges must still be overcome to allow the nurse practitioner role to meet its full potential.

[16] PricewaterhouseCoopers LLP. Health*Insider* No 5, Spring/Summer 2001

8. Collaboration and Cooperation Among Network Members

Prior to signing the contract, each PCN had to establish and document a governance structure. All PCNs now have a governance structure in place. The governance structure formalizes the coming together of the physicians into a group. It provides a framework for jointly managing the business of the PCN and making group decisions. However, the extent of collaboration and cooperation varies greatly among PCNs. Some networks have been more successful at achieving collaboration and cooperation than others.

8.1 Role of Network Leader and Group Members

The network leaders spearhead most of the communication and collaboration in the networks. For the most part, the responsibility for on-going communication and feedback rests on the network leader. This may be because they are paid for these tasks, so there is less incentive for others to adopt these roles. However, in general, few physicians want to do administrative tasks. Several physicians acknowledged that "good doctors don't make good administrators," and that a few people with administrative skills are leading the way, while others don't have the capacity or the time to do this. Thus, the remuneration for the extra contribution of network leaders is warranted. However, this may lessen the incentive for others to take on a greater role in this respect, even in instances where they may have concerns about the group and the way it is run. Nonetheless, some doctors report that they have now taken a greater interest in the group finances and some want greater accountability.

Many networks have reached the stage where they are no longer facing issues related to implementation, but the on-going operation and management of the networks. Some PCNs may be at the point where roles within the group could stand to be revisited. Where appropriate, some groups may be ready to have the responsibility for leadership delegated to others, and the role of the network leader revisited.

Some networks, such as Chatham and Kingston, divided the tasks (and remuneration) between two individuals; one may do the communication and liaison with the MOHLTC and the OMA, and the other may do the budgeting and group co-ordination tasks. However, in some instances, network leaders lament that group members have not been more proactive in initiating ideas and plans or taking on tasks.

8.2 Meeting Content

Group meetings are a common strategy to promote collaboration and co-operation among network members. There is great similarity in the topics discussed at group meetings. Initially, the meetings focused on contractual, start up and implementation issues. For the older PCNs, the discussions now focus more on operational issues.

Issues often addressed in these meetings include:

- Budgets
- On-call schedules
- Vacation schedules and coverage
- Illness coverage
- IT problems
- Preventative codes
- Negation – overall and differing rates among physicians
- PCN rules and policies
- CME
- Ways to do things better

Many physicians say that the meetings also provide a venue to share ideas and information with colleagues. Most of the physicians indicate that they have gained professionally and personally by working in the group. This collegial and more social function has been identified by some as an invaluable benefit. For some groups, this process has been the first step to building trust and a working relationship within the group.

Some networks, such as Primacare and Innovations incorporate Continuing Medical Education (CME) into their regular meetings, and the physicians report that they find this to be very useful.

Some groups have evolved more than others. At some PCN meetings, they report that they share information, and use the meetings to support the ongoing process of revamping and reworking PCN processes.

8.3 Meeting Attendance and Frequency

The frequency of the network meetings varies. The majority of networks meet an average of once a month. Some networks meet more frequently and have regularly scheduled meetings, (e.g. every Monday morning or every second Thursday). Two networks meet less frequently: once every two to three months or on an as needed basis. In areas where there are larger geographic distances between members, they meet regularly by conference call and occasionally in person.

The attendance at the meetings of the various networks also varies. In some cases, a core committee representing other members attends the meetings and reports back to others. Usually this occurs where a physician can represent other members of a group practice. In these cases, all group members attend when there are major decisions to be made. In other PCNs, all members are expected to attend. Some networks regularly have almost full attendance; others have lower attendance rates.

8.4 Collaboration Accomplishments

Beyond the legal requirement for a governance structure, there was an expectation on the part of many stakeholders that the bringing together of family physicians into networks would increase collaboration and co-operation among network members. There are several examples that this is in fact occurring in some networks. Some of the ways that network members are collaborating and co-operating include:

- Meeting on a regular basis to address network issues and share information
- Developing guidelines/policies to guide network decision-making
- Developing or merging joint on-call schedules for evening and weekend schedules
- Developing arrangements to cover each others vacations and absences due to CME and illness
- Sharing the resources of a nurse practitioner and working together to define her role
- Planning of education events
- Incorporating CME into their regular network meetings

8.5 Factors for Successful Collaboration

As mentioned above, various factors have contributed to the extent of collaboration within a group. One doctor said that the meetings are helpful because they provide doctors with a better understanding of how their colleagues' practices work and help to build a team environment.

In groups that generally co-operate and work well together, some physicians have said that the success is due to the physicians who chose to be involved (or in some cases that were chosen to be in the group). Some networks reported that they are well able to make decisions as a group and reach consensus. This has been attributed more to the nature of the group than the PCR mandated governance structure.

Another physician reported that they chose doctors who were able to co-operate and really wanted to be in a PCN. In this group, all physicians were expected to pull their weight and be flexible. It is felt that success is due to the fact that everyone gives extra and that they have a good leader who sets the ground rules.

Co-location has been one factor for success that has been identified. In one PCN where members are co-located, they report that they communicate with each other on a regular basis. Frequent hallway conversations are possible because most are in same location. One physician indicated that they "actually work as a group instead of having solo practitioners in various offices."

Nonetheless, some physicians who are separated by greater distances have developed mechanisms to facilitate communication and co-operation. Conference calls have been used to keep the group up to date, as well as more informal communication between individuals.

Some PCNs considered it necessary to agree on certain principles or rules right at the beginning. Those involved said this has ensured that everyone has a common understanding of the expectations of the group members. In one PCN, they agreed in writing on basic things related to the PCN – such as how to join and depart from the PCN – right at the beginning. One physician said that a good decision-making structure helps them reach consensus.

Some networks have physicians who had previously worked together. The extent to which the group has worked together in the past has also been shown to facilitate co-operation and collaboration. For example, some had been in the same call-group and covered for each other prior to joining the PCN.

For those networks where many of the physicians did not work together in the past, there appears to be a requisite amount of time required to build trust and develop a working relationship. One group member where this applies reported that while it took time to get to know each other and develop trust, this arrangement is now working out well. Time has also been identified as a factor associated with the evolution and success of the group. This point was reiterated by individuals we interviewed at Community Health Centres (CHCs) across Ontario and at the Group Health Centre in Sault Ste. Marie. According to one PCN participant, "after a few years as a PCN there is a maturing of the group to create problem-solving strategies."

8.6 Barriers to Collaboration

Some of the barriers to improved collaboration and co-operation have been identified. In some groups, decision making has been hindered by having a large number of people in the group. Many groups report that they attempt to make decisions by consensus. Group size was identified as one of the limiting factors to this. As well, in some networks members of large group practices tend to dominate the agenda over those in small or solo practices.

Some groups have not yet developed ways to address some of the more contentious internal issues. Examples of this include:

- Some physicians have much higher outside utilization rates than others, but the group is penalized as a whole, not just the individual physician. The PCN may be aware of this issue, but has not yet been able to deal with it
- Some physicians are not rostering the high need patients because they require more frequent visits. The PCN has not yet put a system in place to deal with this issue
- Problems or issues with leadership
- Instances where the doctors are still working individually as solo practitioners and could be collaborating more
- Balancing discussion of academic issues with discussion of community issues
- Networks with physicians who have very different practice styles and have little in common
- Networks that have been split on the IT software and implementation

- Networks that have been split on on-call coverage

8.7 Summary

The extent and type of collaboration varies among the PCNs. Apart from the two newest ones, many PCNs' governance committees have evolved from implementing bodies to operational entities. Some have been more successful in developing a common understanding among the participants and integrating their practices and delivery of primary care.

In terms of the way forward for these groups, one physician highlighted the issue that now faces many of the PCNS when he pointed out that it was a key juncture for his group. He said that this year may be their coming of age. "The Network needs to move to the next stage and decide what they want to be: a group of business people operating under a certain model or further integrate their care."

9. Physician Compensation

9.1 Core Payment Mechanisms

One of the most significant components of primary care reform in Ontario is the change in the way physicians are compensated. Physicians in the pilot sites have two options: capitation or reformed fee-for-service (RFFS).

To some extent, each of the payment mechanisms in the PCR are blended payment models (a combination of capitation and fee-for-service) as elaborated upon below.

A number of pros and cons of traditional fee-for-service (FFS) payment versus capitation have been identified. These need to be taken into consideration when assessing the impact of each of the payment mechanisms introduced in the PCR. These are summarised in the table below.

Pros and Cons of Payment Mechanisms

Payment Mechanism	Pros	Cons
Capitation	• focuses attention on needs of patient population • incentive to address multiple ailments in one visit • encourages the use of telephone monitoring • allows flexible use of health providers • incentive to improve preventative care • incentive to ensure the patient remains satisfied so they remain on the roster • provides predictable income for the physician • facilitates participation in CME • facilitates balanced work life	• rewards withholding service • rewards referral to specialists • rewards maintaining a roster of relatively healthier patients • incentive not to roster frequent users • could increase waiting times
Fee-for-service	• rewards production • some evidence of higher accessibility	• rewards providing service regardless of need • rewards multiple follow-up visits • rewards short encounters • encourages provision of service by physicians rather than other qualified providers • does not encourage continuity of care

Reference: Adapted from presentation by Brian Hutchinson at CHEPA Policy Workshop on October 5, 2000

There is no definitive evidence about the impact of these payment mechanisms on access to care, co-ordination and continuity of care, quality of care and cost-effectiveness.

9.2 Capitation

9.2.1 Description of the Capitation Model

Capitation has been the preferred payment model in the pilot sites. Ten of the 13 networks have opted for this method of payment. This corresponds to 140 of the 166 physicians in the pilots. In the capitation payment system, physicians are reimbursed on the basis of the number of patients enrolled with them. Age and sex adjusted rates are applied to the physician's roster to determine their monthly payment. The capitation payment includes 151 codes from the Schedule of Benefits.

In the capitation model, the majority of the physicians' income is based on their capitated patient population, but other types of payments are received for:

- Additional services provided outside the capitation rate ("excluded services")
- Services to non-rostered patients
- After-hours supplements
- Preventative codes
- Reaching preventative targets
- Allowances for administrative costs
- Rural practice supplements

The PCN physicians may bill codes established especially for PCR (known as bonus codes) including a preventative management fee for carrying out patient recalls associated with preventative interventions such as pap smears, immunizations, and mammography. They can also receive a CME hourly fee (up to an annual maximum). The physicians are required to shadow bill for all included codes, including a team consultation fee and home care supervision. They are also paid a lump sum if they meet specified preventative targets.

Claims for services to non-rostered patients are billed on a fee-for-service basis up to a maximum of $30,000 per physician per year for included services/codes. This amount can be pooled among all PCN physicians.

9.2.2 Experience with Capitation to date

The majority (64%) of the 140 physicians that are using the capitation mechanism are former FFS physicians and are able to offer interesting comparative information on the two payment models. The remaining 36% of the physicians that are using the capitation mechanism are former HSO physicians that have had prior experience with capitation. (Although many former HSO physicians also practiced under the FFS model at some stage in their career.)

All physicians on this payment mechanism are happy with it in principle. Some former FFS physicians reported that they used to find it stressful trying to maintain consistent and adequate billing levels under the FFS model. Many physicians, especially those with

smaller patient populations and/or patients who required more intensive care, found that maintaining a constant income and covering expenses was difficult. While, many physicians indicated that they have experienced an increase in income under the capitation system,[17] most physicians indicate that its greatest benefit has been increased income stability. With greater income stability, they feel that they are better able to manage and use their time effectively.

PCR presented an opportunity for some physicians who wanted to be paid or continue being paid on a capitation basis. For example, some said that they had previously wanted to be paid on a capitation basis, but the HSO program was no longer accepting new physicians. Existing HSO physicians feared that the HSO program would be closed.

Some who were FFS said that they were glad that they no longer faced the dilemma related to which consultation code to apply to a visit. Some indicated that in the past they felt they applied the codes differently than other physicians with a similar patient volume and mix.

Many have indicated that the capitation payment model is more closely aligned with their practice patterns. Several said they had found it difficult to operate under the FFS model. They feel that the new payment mechanism has enabled them to spend more time with sicker or more difficult patients, deal with multiple and more complex problems in the course of the visit, and use the telephone more for prescription renewals and routine follow-up. This change could potentially have a positive impact on quality and continuity of care. Additionally, doctors said they can now schedule time for practice improvement and to catch up on paper work, etc. This, they said, could not be done on FFS.

Physicians also indicated that the FFS payment mechanism may have influenced their practice patterns. Some on the capitation payment model have said that they have revisited their treatment and follow-up patterns. One physician said that "with different incentives, there is a natural tendency to look professionally at what is really needed. This allows you to look at your practice differently."

Many are now trying to find the right balance. For example, some have contemplated instances where follow-up times may be simply based on habit and can justifiably be lengthened so that patients are seen less frequently. Some indicated that such changes entailed an assessment of both their comfort levels and their patients'. One physician found it harder to "wean" herself off shorter follow up times than her patients. For the patients, many were said to have felt gratified that they did not need to return to the doctor as soon. Another physician said that this has been a learning process because for some patients whose follow up is prolonged, the patient's list grows longer with an accumulation of concerns, and hence the next office visit is much longer.

[17] It is important to note that those physicians who were formerly HSO physicians and had a high proportion of elderly patients have either not experienced an increase in income or have had a decline. The capitation rates for elderly patients are less under PCR.

Many physicians point out that they are no less busy and that for some, their practice has grown as a result of PCR. The payment scheme has encouraged some doctors with smaller practices to increase the number of patients they see. An increased roster cap under PCR has also allowed some former HSO physicians to increase their roster size. In some cases, the increasing of patient rosters has provided access to patients who previously did not have a family doctor.

One physician lamented that he has "not been able to practice capitation medicine." He has attempted to introduce more preventative interventions and take advantage of the bonus codes, but says that service demands have often not allowed him to act on these.

Several physicians said that overall they have an improved quality of work life because of the stable income and the ability to take vacations and attend CME without fear of losing revenue. The stable resources enable them to cover the cost of a locum, if needed, during this time. One physician indicated that the greatest benefit of participating in a PCN has been that "the stress level has gone down," and that he is "able to provide better, more efficient office care." Another feels there is better continuity of care with improved after hours and vacation coverage; "patients feel attended to; ...this gives them piece of mind."

Some physicians on capitation feel they have greater control of their income and the management of their practice, especially those who use their accounting systems to measure and assess the impact of the changes. Some physicians, however, expressed concern that they still cannot analyse their income and the impact of this payment method themselves, as there is no system in place to do this. They say they have had to take payments they have received to date on faith.

According to the Ministry, each month all physicians receive a remittance advice (RA) which provides a breakdown of all the payments made to the physician for the month, including capitation and fee-for-service payments. The physicians also receive a monthly enrolment report.

A few physicians in the capitation payment mechanism reported that they have started ***income sharing***. At present, this is only done at the office or group practice level. Once the practices determined their patient and enrolment populations, the physicians worked out formulae for pooled resources and remuneration among themselves. Issues like hours of work, roles within the practice, roster size and the nature of the patient population (including burden of illness and special needs such as mental health) were addressed and incorporated into the payment scheme. While this has worked effectively in those offices where it has been adopted, this may not necessarily be workable at the network level at this stage as many networks do not appear to be ready for this.

9.3 Reformed-Fee-For-Service

9.3.1 Description of the reformed-fee-for-service model

Under the RFFS payment model, physicians are reimbursed for rostered patients on a FFS basis. Services for rostered patients are reimbursed up to a benchmark threshold or notional capitation rate. The benchmark is calculated using age and sex adjusted rates that are similar to those applied to the global capitation scheme. The physicians may choose from two sets of primary care codes and associated capitation rates.

There is no roster limit for RFFS physicians. After they have enrolled at least 40% of their own patients or the network has enrolled 60% of its patients, the network may request to be activated as a PCN and is "active to bill." The benchmark threshold is not instated for 18 months after signing the PCN agreement. Once 75% of their patients are enrolled, the physicians will not be subject to the provincial soft cap.

In addition, the physician may bill the five new fee codes for enrolled patients, including a code for supervision of home care patients. All excluded services, such as obstetrics, emergency and surgical assists, remain outside the benchmark threshold.

Billings for their remaining patients, who are not rostered, are on a traditional fee-for-service basis. The billings for these patients are subject to the OHIP soft cap of $340,000 a year until 75% of the patients are rostered, while as stated above, billing for included services for the rostered patients will be subject to the benchmark threshold.

In the RFFS model, the majority of the physicians' income is based on volume, but other types of payments are received for:

- Home care coverage
- Reaching preventative targets
- Allowances for administrative costs
- After-hours supplements

9.3.2 Experience with RFFS to date

Three networks are RFFS: Chatham, Parry Sound and West Carleton. Twenty-six (26) physicians are involved in these networks. All of these physicians were previously on the FFS method of payment. For the two new networks on RFFS, Parry Sound and West Carleton, the physicians were not able to comment on the impact of the change in payment, as some feel it is too early to say, and others felt that there was a need to see the "numbers" related to the payment mechanism in order to truly assess it.

For those on RFFS, there were three general sentiments about going onto this payment mechanism: they wanted to stay on a FFS-based mechanism because they were more comfortable with FFS; capitation would have been too much change too quickly; or they were not given the option to adopt the capitation model.

Some of the benefits identified for the RFFS model were: protection from the provincial soft cap (because rostered and eventually all patients would be excluded); on-call payments and bonus codes. Similarly, some of their fears related to capitation included: concern that they would not be remunerated for their volume or "hard work;" and concern about whether the capitation rates would be "clawed back" or not keep up with inflation.

For those RFFS physicians who would have preferred the capitation option, some felt the need for control groups in the pilots was not a sufficient reason to impose RFFS. Some are hoping that they will be able to change to capitation later so that they can adapt their practice patterns to the payment scheme, and not have to consider lost income if they were to share care with nurse practitioners and other professionals.

Several RFFS physicians interviewed said they would be open to capitation. In contrast, none of the physicians paid on a capitation basis, said they would prefer to return to FFS. One RFFS physician indicated that working on a FFS basis was "like working on the factory floor," and he welcomed the ability to spend more time with patients where required. However, he also pointed out that "capitation may promote doing less and getting paid for it."

Several RFFS physicians said they believed that no change in practice patterns and service delivery would occur as a result of the RFFS payment mechanism, but that they chose to participate in the pilot because they were interested in the effect of IT on the practice.

9.4 Capitation Rates

9.4.1 Patient Acuity

Some physicians have expressed the concern that the current capitation rates do not truly reflect the differences in patient acuity. This includes differences in the cost of providing services to the elderly and those with chronic health problems, and the burden of disease in various catchment areas.

Capitation rates were calculated based on historical claims data. While the capitation rates reflect a mix of patients by age and sex, they do not reflect patient acuity. In other words, while the rates assume the potential for increased frequency of visits, they are based on the OHIP billing rates for a visit and do not reflect the fact that more complex cases take more face-to-face time.

This is not only a concern for capitated physicians, but for RFFS as well. For example, one physician indicated that an intermediate assessment for an average young person might take five to ten minutes, whereas for a senior it could take 20 to25 minutes. Both visits are worth the same amount because the OHIP billing rate that is applied does not incorporate the length of the visit.

This becomes a problem in all practices with a high proportion of seniors and/or chronically ill. For RFFS physicians, this limits the number of patients they can see in a day, and thus their income. For capitated physicians, the amount of service they provide may not reflect the payment they receive for that patient based on the capitated rate, and some may need to consider lower roster sizes in order to serve a patient population with greater need.

Another concern regarding remuneration for elderly patients relates to former HSO physicians with large elderly patient populations. The capitation rates for the elderly in the PCNs are less than those in the HSO program. In the HSO program, nursing home patients could be rostered and HSO physicians felt the rate better reflected the intensity of care for elderly patients. Under PCN, the elderly in a long-term care facility cannot be rostered. Physicians bill FFS W codes for long-term care patients. Some doctors feel that the capitation model does not support the provision of care to long-term care patients, and some are considering whether to stop serving these patients.

The ***Primary Care Demonstration Project (PCDP)***[18] in British Columbia has addressed the issue of health status, and implemented an age, sex and needs adjusted capitation rate. Studies in British Columbia, Manitoba and other jurisdictions have shown that case mix explains a significantly greater proportion of the variance in the average cost of physician services than age and sex. The Johns Hopkins University ACG case-mix system which has 82 burden of illness categories was employed to incorporate payment for patient acuity into the capitation rate. Additionally, a separate payment mechanism was employed for services to special needs patients such as those with HIV/AIDS.

Results from a study of the PCDP have shown that the ACG-based funding adjusts funding based on the amount of care a patient requires. An assessment of the patient rosters according to ACG groups provided evidence that PCDP sites are not being selective about the patients they roster based on their health status as has been reported anecdotally at some PCNs. As well, in models with case-mix adjustments there is less incentive to "off-load" or refer patients to specialists – one of the criticisms of the capitation model. A comparison of pre- and post-PCDP implementation has shown that there has not been an increase in referrals.

An additional finding, is that after one year the average monthly payments for rostered patients is less than non-rostered patients in all ACG groups.

9.4.2 Burden of Illness

As well, the capitation rates do not account for illness burden in a practice or network. Some areas in Ontario have a higher burden of illness than the rest of the province. Some communities have a higher rate of unemployment than others, some have a lower cost of

[18] Ministry of Health Planning, British Columbia. British Columbia's Primary Care Demonstration Project: Year One in Review: May 2001.

living (especially housing costs), and others have a higher proportion of people on disability. For example, the average family incomes in Parry Sound and rural Kingston are lower than those in the other network catchment areas.

A study of 29 primary care clinics in Manitoba confirms a differential burden of illness[19]. The study compared the health of the population served by a particular clinic to that of the general population. The results ranged from a clinic that had a patient population that was 60% more healthy than the average Manitoban to those that were treating patients that were 38% sicker. Half of the rural clinics had a patient population with a burden of disease greater than the general population, while 40% of urban clinics did. As well, there was a wider variation in the health status of patients among urban clinics.

9.4.3 Geographic Considerations

Some physicians interviewed about PCR in Ontario pointed out that in areas with lower socio-economic status and higher dependency rates, poorer health profiles can be expected. They also said some areas have a higher prevalence of people on disability, mental health conditions, addiction, abuse and violence. While in rural areas the health status of the catchment area generally reflects the health status of the patient population of the local physician, in urban areas it is often specific physicians or practices that serve patients with special needs. Thus, in urban areas it is harder to attribute the health status of the area with the health status of a physician's patient population. Some individual physicians in urban areas reported they were excluding these types of patients from their roster, and some networks exclude physicians who treat patients with the conditions listed above.

An additional concern that was consistently raised in rural areas was the range and intensity of services provided by primary care doctors in those areas. Part of the problem identified was that capitation rates do not recognize the range of services given in a rural area versus an urban practice. This includes procedures such as: suturing, removal of a foreign body, resuscitation, sigmoidoscopy, venipucture and casting.

As well, the intensity of care and services provided in rural areas often differs from an urban or peri-urban area. Often patients who would be referred to a specialist in an urban area are treated by a primary care provider in a rural area. Also the family physician in a rural area generally takes on a larger proportion of the follow up after a referral to a specialist.

The impact of the capitation rates on access to care needs further consideration. Many of the issues identified above for rural areas are also experienced in other areas where patients face other types of barriers to accessing health services such as socio-economic

[19] Do Some Physician Groups See Sicker Patients than Others? Implications for Primary Care Policy in Manitoba. Robert Reid, Bogdan Bogdanovic, Noralou Roos, Clarlyn Black, Leonard MacWilliam, and Verena Menac. Manitoba Centre for Health Policy.

status, homelessness, health status, literacy, language and culture. It will be important to ensure that the payment mechanisms and the structure of the capitation rates do not create disincentives for physicians to service certain types of patients.

9.5 Bonus Codes

9.5.1 Physician Opinions about the Bonus Codes

Bonus code targets were set based on provincial averages and targets. The lower target is slightly less than the provincial average, and the upper target is based on provincial targets. These thresholds are adjusted downwards in some instances, for example for patients who decline for philosophical reasons or women who have had a hysterectomy.

While most physicians embrace the philosophy behind the bonus codes and welcome the opportunity to bill and be recognised for work that they do, the bonus codes have not worked well in practice.

Most doctors report that they have not focused on the bonus codes. They report that the preventative targets are hard to reach. One physician with a large practice said these targets are especially hard to achieve. They mention that if IT were in place, it would help manage this.

Many hoped for a financial reward, "but are not convinced we will see full benefit of this" and "whether the financial incentives for preventative interventions will work." One physician expressed the sentiment that the "amount paid is miniscule and it is not worth it." For example, many feel that the effort required to identify, contact and remind patients to come in for a preventative intervention is not worth it, especially if there is no IT in place to do so. Referring to the bonuses, one physician said the Ministry should "make the carrots real."

Patient interest and compliance was also addressed. It was said that sometimes the level of compliance may reflect socio-economic and other factors. For example, some patients may not show up for appointments for preventative interventions, and there are not enough resources to follow-up with these individuals. The bonuses do not, in reality, cover the administrative work entailed in these instances.

For RFFS physicians who are not likely to reach the benchmark threshold, the incentive to enrol patients is exclusively to take advantage of the new bonus codes. Many have said this is not a large enough incentive to enrol patients, especially with the extra effort required to contact patients to come to the office for the intervention.

Many physicians report they welcome the bonus payment for being on-call and RFFS physicians are making use of the home care code. The home care codes show potential. Physicians say they appreciate the recognition for work that they do, and although the amount may not truly reflect the time involved, they are now paid for work done for free in the past. Many of the physicians report that they speak to home care nurses on a daily

basis, others communicate by fax. However, it is important to note that billing for home care supervision is no longer unique to PCR and is now available to all physicians in Ontario.

The PCN home care supervision fee (Q400) is a monthly flat rate which can be billed for every rostered patient enrolled in a home care program. FFS physicians may now bill for home care supervision, using the Schedule of Benefits codes K071 and K072. These FFS codes are paid every two weeks and based on a sliding rate which declines if the patient has been in home care longer than twelve weeks.
Doctors can bill hourly for the CME code up to a monthly maximum. Some physicians expressed concern that they could not accumulate their CME hours, and apply unused CME time from the previous month to the present month.

9.5.2 Calculation of Bonuses for Preventative Targets

According to the MOHLTC, the bonuses are calculated based on the number of enrolled patients who have received the designated service based on the specific fee codes for the preventative services. Annex A at the end of this section includes the fact sheet on bonus codes provided to the physicians by the MOHLTC which lists the codes applied for each preventative service. The number of enrolled patients who have received the preventative service is divided by the number of eligible patients in the doctor's enrolled population to derive a percentage. For each of the bonus payments the target population is adjusted as outlined in the fact sheet. For example, the pap test target population is reduced by 15% to account for female patients who have had a hysterectomy.

In 1999, the average physician received $2,346 or $587 per bonus code. Some of the physicians we spoke to had recently received their 2000 payments for reaching preventative targets. Most had received $440 for each preventive intervention. However, they said that they thought that this amount was incorrect and that the MOHTLC figures did not match their calculations, but felt that it was not worth the time and effort to follow up and investigate it. However, by Oct 31, 2001, several had submitted a request for the recalculation of the 2000 bonus codes.

Some of the discrepancies arise because some patients are getting their preventative services elsewhere, and in some cases the services are not coded correctly. For example, physicians may use different codes for pap tests. A pelvic examination may be done as part of a variety of assessments and the pap test is not billed for separately in these circumstances. A code has been introduced for PCN physicians to apply when they do a pap test in addition to other assessments, but not all have applied this and it presents a problem when patients are seen outside the PCN. Nonetheless, these bonuses are largely calculated based on laboratory codes which reflect most PAP smears conducted and the MOHLTC will accept a signed letter from a physician providing patient specific information on their patients' pap tests.

Physicians use different codes for immunizations; some use what they refer to as a general needle code (G372). However, the Schedule of Benefits changed in April 1998

and two new codes were introduced instead. The current calculation of the preventive bonus for adult and childhood immunization is based on the two fee codes for each identified in the fact sheet, although the old G372 code was recognized in the first year. Additionally, physicians have grappled with getting information about their patients who are from other jurisdictions. For example, children from other jurisdictions or countries may not have their immunization recorded in the OHIP claims files. If a parent can provide evidence of a child's immunization from another jurisdiction, the doctor can submit this record to the MOHLTC to register the child as having the requisite immunizations.

As well, some patients take advantage of flu clinics in public centres promoted by the MOHLTC. If there is no claim submitted to OHIP, the patient will not be counted in the numerator when the preventative bonus is calculated for flu shot. The Ministry is currently working with public health staff to determine a way to gather patient-specific information.

Some women get mammograms at the Ontario Breast Screening Program (OBSP). The OBSP does not bill OHIP for the screening mammograms it provides. When mammograms are done at the OBSP, the physician is required to obtain the names of the patients who have had a mammogram there and submit this information to the MOHLTC.

9.5.3 Evidence from Other Jurisdictions

A review of the literature by Armour et al.[20] finds the empirical evidence on the effectiveness of bonus payments on physician behaviour is mixed. In a randomized controlled study, where half the physicians received bonuses for achieving cancer screening targets, Hillman et al.[21] found that bonus payments did not improve quality of patient care as defined by physician adherence to cancer screening guidelines. In another randomized controlled study in New York, Kouides et al.[22] found that bonus payments improved influenza immunization rates. In the cancer screening study, the physicians were paid a lump sum, whereas for the immunizations, the rate paid per immunization increased at specified target levels. Hillman suggests that the reason that there was no difference between the two groups in the cancer screening study may have been because the contractual arrangement delayed the rewards and, as a consequence, the physicians discounted the value of the bonus payments (US $775 in 1995).

These studies may indicate that it is important to establish the value at which a bonus payment will provide an incentive to change physician behaviour, and then apply a discount factor to determine the appropriate value for this payment in the future.

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[20] Brian S. Armour, PhD; M. Melinda Pitts, PhD; Ross Maclean, MD, MBA; Charles Cangialose, PhD; Mark Kishel, MD; Hirohisa Imai, MD, PhD; Jeff Etchason, MD, "The Effect of Explicit Financial Incentives on Physician Behavior." *Archives of Internal Medicine*. Vol. 161 No. 10, May 28, 2001

[21] Hillman AL, Ripley K, Goldfard N, Nuamah I, Weiner J, Lusk E. Physician financial incentives and feedback: failure to increase cancer screening in Medicaid managed care. *Am J Public Health*. 1998;11:1699-1701.

[22] Kouides RW, Bennett NM, Lewis B, Cappuccio JD, Barker WH, LaForce FM. Performance-based physician reimbursement and influenza immunization rates in the elderly. *Am J Prev Med*. 1998;14:89-95.

9.6 Roster Nature and Size

The incentive structure of the payment methods can potentially impact on patient rostering, and thus on access to care, continuity of care and cost-effectiveness. Under both of the PCR payment methods, the number of people rostered has an impact on the physician's income. In capitation, the income is the daily age and sex adjusted capitation rate for each enrolled patient (up to a maximum of 2,200 patients).[23] [24] Thus, the more patients enrolled the higher the capitation income. In the RFFS model, the number of patients enrolled pushes up the physician's benchmark threshold and also allows them to bill the new bonus codes for these patients.

As well, the nature of the rostered population impacts physician income. To reflect the patient population, the capitation rates are age and sex adjusted. Thus, a capitated physician with a higher proportion of elderly or female patients will be compensated at a higher rate than those with other types of patients, and RFFS physicians would have a higher BMT.

9.6.1 Capitation

For the rostering and capitation scheme to work well in theory, it is necessary to roster as many patients as possible. Under arrangements where physician compensation is based on a capitated fee, physicians have a financial incentive to increase their number of patients, as long as they perceive that the payment they receive is greater than the average cost of caring for those patients.

From a financial and time management perspective, the best patient roster is one which has a mix of frequent and infrequent users. Unfortunately, the rostering method identified as most effective by most PCN practices (face-to-face recruitment at the time of office visit) tends to bring a higher proportion of frequent users into the roster and not capture as many infrequent users. As well, there is a greater incentive for frequent users to identify and roster with a regular doctor.

Although the PCN agreement requires physicians to offer enrolment to every patient in their practice, for those on capitation there are financial incentives to keeping frequent users on the traditional fee-for-service payment mechanism as long as possible. There are reports that some physicians are not enrolling high maintenance patients, and some physicians with high maintenance patients being denied access into networks. This is of concern in instances where physicians are not adhering to the requirements of their contract, and where high need unrostered patients may not have full access to the services provided by the network.

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[23] This can increase by 800 if a nurse practitioner is employed. Former HSOs were allowed to grandfather their patients into the program up to a maximum amount of 2,500.

[24] These numbers are calculated on an annual basis and prorated based on the length of time the patient has been enrolled.

9.6.2 RFFS

For the RFFS model, the impact of rostering remains unclear. Unlike the capitation payment system, there is little direct financial incentive to roster patients. For physicians who are not likely to reach the BMT, the incentive to enrol patients was exclusively to take advantage of the new bonus codes. Many physicians weighed the time and effort required to enrol patients against the potential income derived from taking advantage of the PCR bonus fee codes, and most feel that they accrue little or no financial advantage.

However, for physicians with large patient loads, the initial incentive was to enrol a high number of patients to circumvent the provincial soft cap for billing, as well as take advantage of the new bonus codes. However, once the BMT is activated after 18 months, there may be an incentive to keep frequent users off the roster and continue to bill them FFS and thus, not be subject to the BMT or the provincial soft cap. Some physicians have indicated that they will not be interested in continuing if the BMT caps are eventually applied. One physician said he would enrol 1,000 more patients if the cap were lifted. Another has reduced his after-hours services because he has reached his cap.

Physicians admit that RFFS "is a bit of a numbers game regarding payment." While there are advantages to not having too many enrolled, a base number is required to qualify for RFFS. With a limited roster size they would be less likely to reach the benchmark threshold, but if patients are not rostered they can't apply the bonus codes.

The incentive to roster to circumvent the provincial cap seems to have been greater. Based on the limited numbers of physicians in RFFS interviewed, those that reported greater patient populations and patient throughput had rostered a greater number of patients.

9.7 Negation Rates

Outside use is defined as: the fee-for-service (FFS) billings generated by enrolled PCN patients for *included services*[25] by non-PCN physicians within a PCN's defined geographic area for services, including physicians who are part of another network.. Excluded from outside use are the FFS billings of *excluded codes*, *GP Specialist Codes*, and FFS billings by physicians outside a PCN's defined geographic area. The actual outside use rate is based on a ratio of the monthly outside FFS billings for included services over the total monthly global capitation payment to a PCN.

Negation of physician income due to outside use continues to be a problem for a number of physicians paid by capitation.[26] In areas where there are fewer local alternatives, such

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[25] *Included codes* are listed in Appendix A of the Global Agreement. A PCN *excluded code* is any fee schedule code in the Schedule of Benefits that is not listed in the included codes as described in Appendix A of the Global Agreement. The excluded *GP Specialist Codes* are: A110A, A111A, A112A, A114A, G197A, G209A, G465A, G467A, G700A, J301A, J304A, J324A, J327A, K001A, K002A, K003A, K004A, K006A, K007A and K008A.

[26] Outside use only applies to the PCNs that are globally funded. It does not apply to the RFFS sites. However, billings are attributed to RFFS physicians' BMT if their rostered patients see another physician in the network, but not if their patients see a non-PCN physician.

as walk-in clinics, negation is less of a problem. However, where there are alternatives like walk-in clinics nearby, patients continue to use them.

Patient accountability was identified as an area of concern. Many physicians felt that the responsibility for patient behaviour should not rest solely with them. A doctor interviewed said that it is important "to make patients understand that means are finite, and that patients must be responsible for the way they use the system."

One physician felt negation could prove to be one of the biggest challenges to the provincial roll-out. He indicated that one-third of his patients come from a neighbouring town where there is a walk-in clinic. He has sent mail-outs to each of his patients outlining the premises of PCR, and the financial impact on him when they go elsewhere. This has had no impact. Nonetheless, he says he can't blame them if after-hours or in poor weather they attend a clinic that is much closer to their homes. Another doctor's patients who do not speak English chose to go to a service outside the PCN where there is someone who speaks their language when he is unavailable. These doctors have not de-rostered patients who use walk-in clinics, but some physicians have.

Some physicians report that they speak to their patients and give them two or three warnings before they de-roster them; others simply de-roster patients when they determine that they are using outside services extensively. Some doctors say they have found their patients amenable to counselling about outside use, and apologetic when they learn that the doctor is subject to financial penalty.

Additionally, one physician reported that she felt as though she were "held hostage" to see some patients the same day, because otherwise they will seek care outside the network (e.g. a walk-in clinic where they could be seen the same day). Some report that they stay late or squeeze patients into very busy schedules to ensure their patients do not go elsewhere.

With regard to the ***PCDP in British Columbia***, the Canadian Health Service Foundation recommended a shared responsibility for non-emergency outside use with the catchment area among the physician with whom the patient is registered, the outside provider and the provincial funding agency. As implemented, the PCDP is negated for outside use and like Ontario the outside provider does not share financial responsibility.

Physicians have highlighted the following examples of outside settings where negation has been applied:

- Laboratories at another physician's office
- Sports medicine clinics run by GPs
- Weight loss clinics
- Walk-in clinics
- Well-women clinics
- Cancer detection clinics

- GP counsellors and psychotherapists
- Refraction clinics
- Palliative care GPs
- Vein clinics
- Cholesterol clinics run by GPs
- Private house call services

According to the MOHLTC the following services are among those which are not counted as outside use:

- The majority of Emergency Room services
- GP counsellors & psychotherapists (billing GP specialist codes).
- Sports medicine clinics billing G465 and G467 (manipulation of a major joint, miscellaneous therapeutic procedures)
- Refraction clinics – occulo-visual assessments (A110, A111, A112, A114)
- Most surgical assistant codes are excluded.

Some physicians report that they feel they have been negated in instances where it is inappropriate. This is mainly when patients receive the services from another GP who provides services that the PCN doctors do not. This includes laboratory and diagnostic services, some surgical assistance[27], and GPs who provide sub-specialist services that are not billed using GP specialist codes and are considered *included services*, such as counselling, some sports medicine interventions and weight loss clinics.

The doctors indicate that they are even more frustrated about negation because they have no tools to assess, manage or control it. PCN physicians are sent quarterly reports on their actual outside use. These reports are broken down by physician and a total rate is given for the PCN as whole. For networks that receive group rather than individual capitation payment, only the outside use rate for the entire group is reported. These reports are not in electronic format, and physicians say it is very hard to read the utilization statements sent from the Ministry.

Additionally, physicians only get reports about outside use by specific patient for those patients who have consented to have this information provided to their physician. If physicians are interested in outside use by patient they can request a consent data report for primary care services, either for a specific patient or all their rostered patients. The report covers a 12-month period and all included codes delivered by a GP/FP anywhere in Ontario.

The consent report on primary care services is only produced for those patients who have submitted a signed consent to the Ministry. As of October 5, 2001, approximately one-third of patients had submitted signed consent forms. As many patients have not

[27] This includes the E542 code for minor surgery outside the hospital, and E746 an add on code for sigmoidoscopy outside the hospital.

consented to the release of outside use information, often the physician cannot determine which patients sought outside services and where they went.

9.8 Role of the MOHLTC and the OMA

Physicians expressed some concern regarding future remuneration under the PCR payment schemes. There was wide-spread concern that the capitation rates could either be frozen or reduced. This could have an affect on the incomes of those both in capitation and RFFS. Several of the physicians expressed distrust of the MOHLTC on this issue. This sentiment is exacerbated by the perceived inaction on the doctor's shortage and the delays – and in some cases unmet promises – related to PCR. One doctor indicated that the MOHLTC has the "attitude that doctors are overpaid and pampered." There is a feeling that the MOHLTC undervalues their services. Some doctors say this comes across in their dealings and affects current and future relationships.

Additionally, many indicated that they believe that the OMA may be less inclined to address the concerns of members of alternative payment plans and issues related to the capitation rates. As well, there is concern that the OMA is less supportive of the capitation model in general, and that this presents a challenge for participating physicians who feel that their opinions and views may not be supported or aired.

9.9 Other Providers

Capitation may facilitate the hiring of other health care practitioners, especially since sharing care with other providers does not affect the physicians' income. There is a much greater disincentive to do so under RFFS. Some of the physicians paid on a capitated basis pay out of their own pocket to have other types of health care providers on staff part-time. There is concern that former HSO physicians continue to have these positions funded by the MOHLTC, while former FFS physicians do not have access to specialized resources. Nonetheless, few physicians feel that they are able to pay for other providers out of their own pocket, and feel that these providers should also be paid by the MOHLTC.

9.10 Summary

Capitation and RFFS have different incentives for the number and type of patients that could be rostered, and the way in which their treatment and care is managed. The impact of these incentives should be monitored to ensure that they do not adversely impact on access to or quality of care. While there is minimal or conflicting evidence in the literature about the impact of these payment mechanisms on primary care delivery on: patient satisfaction; quality; utilization and cost of care; and length of office visits, there is some evidence suggesting that capitation has the potential to result in higher referral rates to specialists and better performance in preventative care with capitated physicians.[28]

[28] Hutchinson et al. "Primary Care in Canada: So much innovation, so little change." ***Health Affairs*** May/June 2001, Vol. 20, No.2 pp116-131.

Most Canadian primary care experts agree that a blended payment model could mitigate the disincentives in a purely capitated or FFS model.[29] [30] [31] [32] Both payment models in PCR have blended components. The critical difference is the way in which "core or included services" for rostered patients are remunerated. In blended models in Canada, and internationally, most "core or included services" are paid by capitation or salary. Incentives or FFS payments are made for excluded services, and, in some cases, additional payment adjustments are based on volume.

An example of an existing payment model is as follows:

The Group Health Centre in Sault Ste. Marie has tried several payment systems to date. It now has a three-tiered payment scheme. Currently, physicians have a fixed and a variable component of their salary. The variable pay component addresses instances where doctors have higher volumes of patients or specialize in care of patients with special needs, e.g. substance abusers.

They also have a joint executive committee with physician representation where they make operational decisions regarding the use of resources. These decisions lead to formulation of budget, and physicians and administrators together decide how to spend the surplus. In this way, the doctors understand how their treatment and care decisions affect the budget and better understand the tradeoffs. The doctors also have a stake in rationalizing the administration of care, including resources for both capital and staff.

The support among doctors for alternative payment mechanisms has increased over the past five years. In the context of the provincial roll-out, physicians may be amenable to a payment approach that is presented as a blended approach. In the Canadian Medical Association Physician Resource Questionnaire in 2001, 27.6% of GP/FPs in Canada indicated a preference for a blended payment model, and 24.3% would prefer to be paid by salary. Female physicians are more likely to prefer blended payment mechanisms than males, and younger physicians are much more likely than older physicians to have a preference for blended payment. Overall, 31.4% of GP/FPs prefer FFS; fewer in rural areas (27.2%). This is down from 50.4% in 1995.[33]

Based on the preliminary assessment of the PCNs, there is reported evidence that physicians are responding to some of the incentives incorporated into the PCR payment mechanisms. Overall, there appears to be greater satisfaction with the capitated payment model, and the capitation model appears to have had more of an impact on practice

[29] Hutchinson et al. "Primary Care in Canada: So much innovation, so little change." ***Health Affairs*** May/June 2001, Vol. 20, No.2 pp116-131.

[30] Rosser, Kasperski. "Organizing Primary Care for an Integrated System." **Healthcare*Papers*** Winter 1999, Vol. 1, No. 1 pp5-22.

[31] http://www.cma.ca/cmaj/vol-163/issue-5/prq/index.htm

[32] Graham W. "Moving Healthcare Reform Forward: A Complex and Challenging Transition." **Healthcare*Papers*** Winter 1999, Vol. 1, No. 1 pp37-49.

[33] Scully H. "Building on the Best Delivery Systems in the World." **Healthcare*Papers*** Winter 1999, Vol. 1, No. 1 pp23-32.

patterns than RFFS. Anecdotal reports would support some of the benefits of capitation presented in the table at the beginning of this section. However, there is not yet enough evidence to confirm this.

With regard to the potential incentive in a capitated model to exclude patients with special needs and refer to specialists more frequently, there is anecdotal evidence that some patients with special needs are being excluded in some sites. Preliminary results from the PCDP in British Columbia show that the inclusion of a risk adjustment component to the capitation rate has mitigated this. The capitation rates in PCR are calculated based on the pre-existing FFS billing codes, and adjusted for age and sex. Some argue that these do not adequately compensate those who provide care to elderly and/or sicker patient populations. The impact of this on access to care for special patient populations and referral patterns warrants further consideration.

Target bonuses and additional payments for preventative interventions are often part of blended physician payment models. While the physicians support the premise of the preventative bonus codes and wish to employ a more preventative emphasis in their practices, for the most part, these codes have not been implemented successfully. Many are finding it difficult to reach the required targets, and others feel it is not worth the effort. For some physicians, the tools for monitoring their progress are not in place. As, well few physicians agree with the MOHLTC's records and feel they have achieved higher rates than they have been remunerated for.

Physicians continue to express concern about negation. Negation has a differential effect according to proximity to alternative health services, and physicians feel that they should not be solely accountable for patient behaviour. They also report that negation may be being applied in inappropriate circumstances and that there may be mitigating circumstances where negation should not be applied.

Annex A: MOHLTC 2001 Fact Sheet- Preventive Care Bonus Fee

Influenza vaccine

- Calculation of target levels is based on the percentage of enrolled patients 65 and over who had received the flu vaccination for the year.
- Patients in the target population were deemed to have had the flu vaccination if at least one of the following two relevant fee codes was billed for them between August 1, 2000 and December 31, 2000:
    - G 590A influenza agent – with a visit
    - G 591A influenza agent – sole reason
- In time for the fall 2000 flu season the Ministry of Health and Long-Term Care implemented a program of universal flu shots at no charge to patients. Many patients received these shots though Public Health Unit clinics, as opposed to from their family physician. In order for us to calculate the percentage of your patients who received flu shots for 2000 we have used the following format:
- To calculate the number of patients who are 65 and over who have had the influenza vaccine, we first determine the number who have had their influenza vaccine based on the use of the codes for influenza vaccine, G590 or G591. This is patient based, so if another physician has given the vaccine, you are still credited for it.
- Due to the implementation of the government's flu shot program, in the fall of 2000, the OFHN is currently looking into provincial rates for visits to public health clinics by patients over 65. If this data becomes available, it may subsequently be used to adjust payment levels for influenza vaccinations.
- The target levels and compensation are as follows:
    - 60% = $220
    - 65% = $440
    - 70% = $770
    - 75% = $1100
    - 80% = $2200
- The target levels take into account that there are people who do not have influenza vaccine for medical, philosophical, or religious reasons.

Childhood immunization

- Calculation of target levels is based on the percentage of enrolled patients who were 24 months of age by December 31, 2000 and **who had received at least five immunizations by the age of 2 years.**
- Patients in the target population were deemed to have been immunized if at least one of the following two fee codes was billed for them at least five times between January 1, 1998 and December 31, 2000:
    - G 538A Active immunization – with a visit
    - G 539A Active immunization – sole reason

- The target levels and compensation are as follows:
  - 85% = $440
  - 90% = $1100
  - 95% = $2200
- The target levels take into account that there are infants and children who do not receive immunization for medical, philosophical, or religious reasons.

Pap Test

- Calculation of target levels is based on the percentage of eligible enrolled female patients between 35 and 69 years of age who had a Pap test at least once in the past two years.
- Patients in the target population were deemed to have had a Pap test if at least one of the following three fee codes was billed for them between January 1, 1999, and December 31, 2000:
  - G 365A Periodic Papanicolaou Smear
  - L 713A Cytology and Histology cervicovaginal specimen
  - L 643A Microbiology: Smear only, Gram or Papanicolaou stain
- The target levels and compensation are as follows:
  - 60% = $220
  - 65% = $440
  - 70% = $660
  - 75% = $1320
  - 80% = $2200
- The target levels account for women who have had a hysterectomy or are being treated for cervical diseases which preclude regular screening Pap tests.
- The target population was reduced 15% to exclude enrolled female patients who have had a hysterectomy.

Mammography

- Calculation of target levels is based on the percentage of eligible enrolled female patients between 50 and 69 who had a Mammogram at least once in the past two years.
- Data is obtained from the Ontario Breast Screening Program and OHIP billings.
- Patients in the target population were deemed to have had a Mammogram if at least one of the following two fee codes was billed for them between January 1, 1999, and December 31, 2000:
  - X 185A Mammogram – dedicated equipment – bilateral
  - X 185C Mammogram – dedicated equipment – bilateral
- The target levels and compensation are as follows:
  - 55% = $220
  - 60% = $440
  - 65% = $770
  - 70% = $1320

    - 75% = $2200
- The target levels take into account that some women are not eligible for screening because of current or previous breast disease.
- The target population was reduced by 5% to exclude patients with breast cancer and patients who have received a mammogram as part of the investigation of clinical breast disease.
- The compliant population was increased by 16% to include those enrolled patients who have had their screening done at the Ontario Breast Screening Clinic.

10. Use of Information Technology

10.1 IT Implementation in the Networks

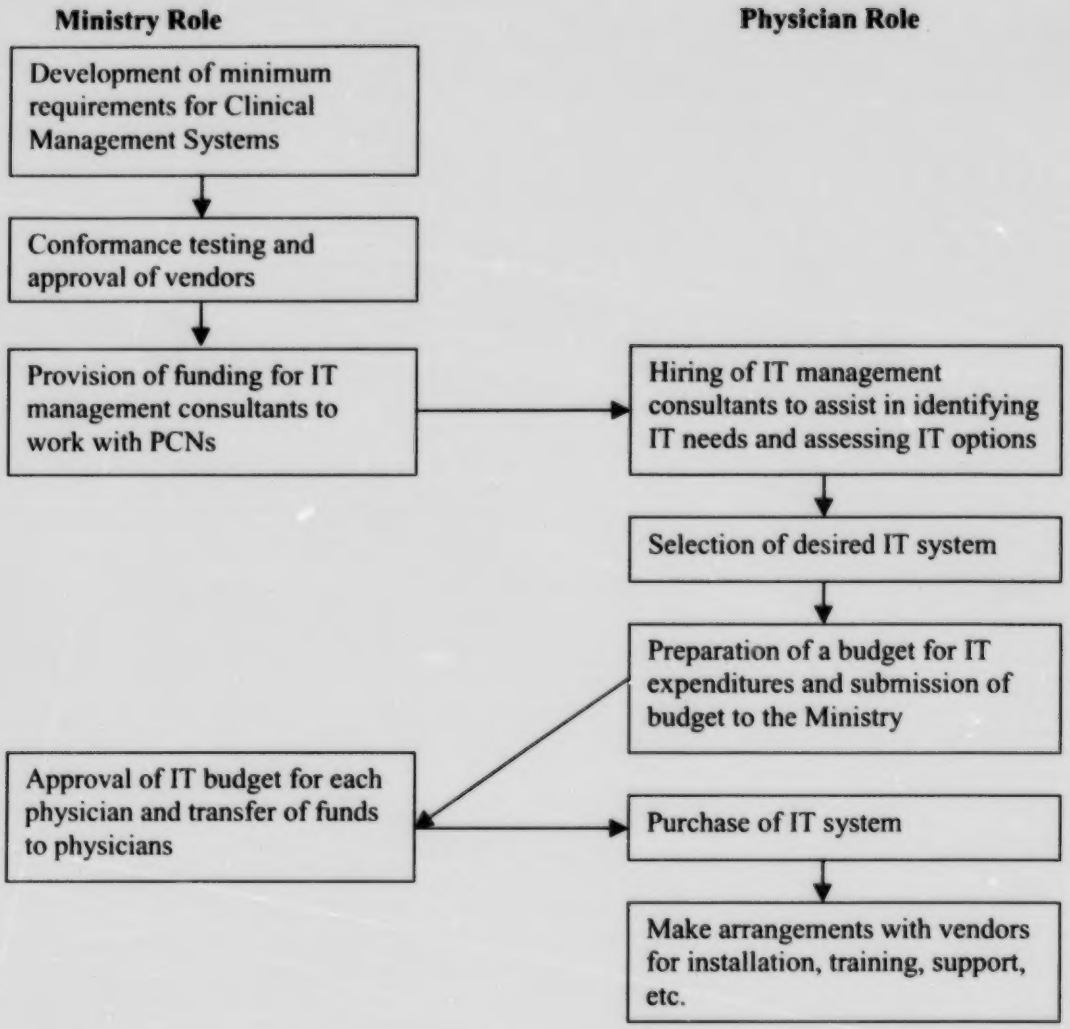
Information technology is an essential enabler for improving the way health care services are delivered. In an information package for physicians, the Ministry stated:

> *Health care delivery is an information-based process, and health information as a strategic resource can be used effectively to support change and to improve patient care. Under Primary Care Reform, the vision for information technology is based on the premise that better organization of this health information and its timely availability will result in better service quality, reduce duplication of care, and enable better health care planning.*[34]

In recognition of the potential benefits of information technology, the Ontario Budget 2000 included $150 million in funding for information technology to support PCR. Funds have been allocated to physicians in the pilots on a cost-sharing basis whereby the Ministry funds two-thirds of eligible technology costs and the physician pays the remaining costs. There was a wide range in the average IT cost per physician (including software, hardware, one-time operating costs, and ongoing operating costs for three years).

Interviews with physicians, in both Phase 1 and Phase 2, have consistently shown that information technology was a major reason why physicians chose to join the pilot. The Phase 1 report described the process for implementation of information technology in the pilot sites. An overview of the roles of the Ministry and the physicians in this process is provided below:

[34] Primary Care Reform Information Package, June 27, 2000


Ministry Role
Physician Role
Development of minimum requirements for Clinical Management Systems
Conformance testing and approval of vendors
Provision of funding for IT management consultants to work with PCNs
Hiring of IT management consultants to assist in identifying IT needs and assessing IT options
Selection of desired IT system
Preparation of a budget for IT expenditures and submission of budget to the Ministry
Approval of IT budget for each physician and transfer of funds to physicians
Purchase of IT system
Make arrangements with vendors for installation, training, support, etc.

To help physicians deal with the challenging process of IT acquisition and integrating IT into their practice, the OMA has produced a comprehensive guide entitled "Medical Office Technology: Planning for the Future". The introduction to the guide states:

> *The concern is that physicians need some guidance about what technology they will need in the near future. The ability to understand what may be required, in order to aid physicians in planning with colleagues and then negotiate with systems vendors, was deemed vital.*[35]

[35] "Medical Office Technology: Planning for the Future", Ontario Medical Association, 1998, page 1.

F2

The goal of the document is to "provide guidelines for physicians to assess and choose clinical management systems for their office practices with the latest knowledge on the available technology."[36] The guide includes information about functional requirements, practice management functions, clinical management systems, steps to computerizing the medical office, how to evaluate IT systems, IT system costs, and guidelines for contract negotiation and implementation planning. Although the guide is not specifically for primary care physicians, there is an appendix that outlines the specific requirements for primary care reform. Other assistance the OMA provides to help physicians with IT acquisition includes: worksheets and checklists, an inventory of "reputable practice management consultants with requisite knowledge of the practice of medicine", and monitoring vendors and related information .

Physicians and other PCN staff faced a number of issues and challenges during the IT implementation process. The reader is referred to the Phase 1 report for a detailed discussion of these issues.

10.2 Assessment of the Integration of Information Technology in the PCNs

10.2.1 Information Technology Goals

The focus of Phase 2 of the evaluation is on the extent to which IT has been integrated into the day-to-day practice of PCN physicians to support the information technology goals identified by the Ministry. These goals are:

Primary Care Networks Information Technology Goals[37]

- To provide clinical tools for primary care physicians which support the goals of Primary Care Reform
- To improve quality of care
- To streamline medical practice administration
- To improve the cost effectiveness of health care services
- To evaluate the effectiveness, satisfaction, costs and benefits of IT

These information technology goals are consistent with, and support, the four goals for Primary Care Reform which are: improved access, improved quality and continuity of care, increased patient and provider satisfaction and improved cost-effectiveness.

In the *Global PCN Agreements*, signed by each PCN, each physician committed that they "...shall obtain and use a clinical management system software package...".

To date, the systems that have met Ministry requirements and are in use in the PCN pilots are: MacMedical, P&P, York-Med and Muffin (in use at McMaster PCN only).[38]

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[36] Ibid.
[37] PCR Information Package, June 27, 2000.
[38] CliniCare has also passed conformance testing.

10.2.2 General Physician Use of IT – the starting point

As a context for interpreting what has been achieved from an IT perspective, it is important to recognize what was in place before primary care reform. Many of the physicians in the pilots had an IT system in place prior to primary care reform. Similarly, discussions with IT vendors confirm that many family physicians that are not part of the pilots are also using IT systems including electronic medical records. The following statistics from the Canadian Medical Association's 2001 Physician Resource Questionnaire provide insights into the extent to which Canadian GPs/FPs are using information technology and for what activities.

- 84.9% of GPs/FPs report personally using a computer
- Of those who were not using a computer, 37.2% reported that they plan to do so in the next 12 months
- 15.7% of GPs/FPs use a personal digital assistant or wireless devise such as a Palm Pilot
- 10.9% of GPs/FPs use the Internet in their office or clinical practice

The table below shows the proportion of physicians that personally use a computer for various purposes:

Activity	GPs/FPs	All Physicians
Electronic billing	12.9%	14.0%
Electronic patient records	10.8%	13.8%
General office management (e.g. word processing)	26.1%	28.8%
Decision aids in patient management (e.g. checking for drug interactions)	23.7%	25.4%
Electronic mail	64.2%	70.6%
CD ROM professional resources	39.6%	47.6%
CME on diskette or CD ROM	30.4%	41.3%

The table above indicates that GPs/FPs lag behind physicians as a whole in terms of computer use.

- The overall survey results (i.e. not specific to GPs/FPs) suggest that certain physician characteristics may be correlated with computer use:
    - There was a reduction in computer use by physician age for all activities
    - Males reported higher usage than females for all activities
    - Urban physicians reported higher usage than rural physicians for all activities.

10.2.3 Overall Status of IT Integration and Factors that Influence Integration

Most networks have their IT system in place with the exception of Parry Sound and Chatham. Parry Sound is a new network that became active in April 2001 and they have

not completed their selection process yet. Chatham has experienced a relatively long and reportedly frustrating process of selecting their IT system and negotiating expenditures with the Ministry. Physicians in the Chatham PCN reports that they are now ready to sign their IT contracts.

Interviews with physicians and staff in each of the networks indicate that the extent to which information technology has been integrated into physician practices varies by physician. While it is difficult to generalize, some of the factors that appear to influence the degree of integration of information technology are:

- The physician's comfort level with technology. In some cases this is related to the age of the physician and the number of years in practice. Some physicians who completed medical school more than ten years ago reported that they did not use computers in their residency. ("Its mind boggling to think that this machine will tell you when there is something wrong")
- The implementation timeframe for selecting the system, negotiating the budget with the Ministry and having the system installed
- Technological problems or installation delays that are frustrating and time consuming to fix
- Incomplete training on how to use the various components of the system; this may be due to physician unavailability, vendor unavailability or both
- Inadequate ongoing support (e.g. one PCN has written their own computer manual because the vendor did not provide one. The manual serves as a reference on how to make entries in the patient electronic medical record)
- Dissatisfaction with the system chosen ("I'm waiting for the upgrade")

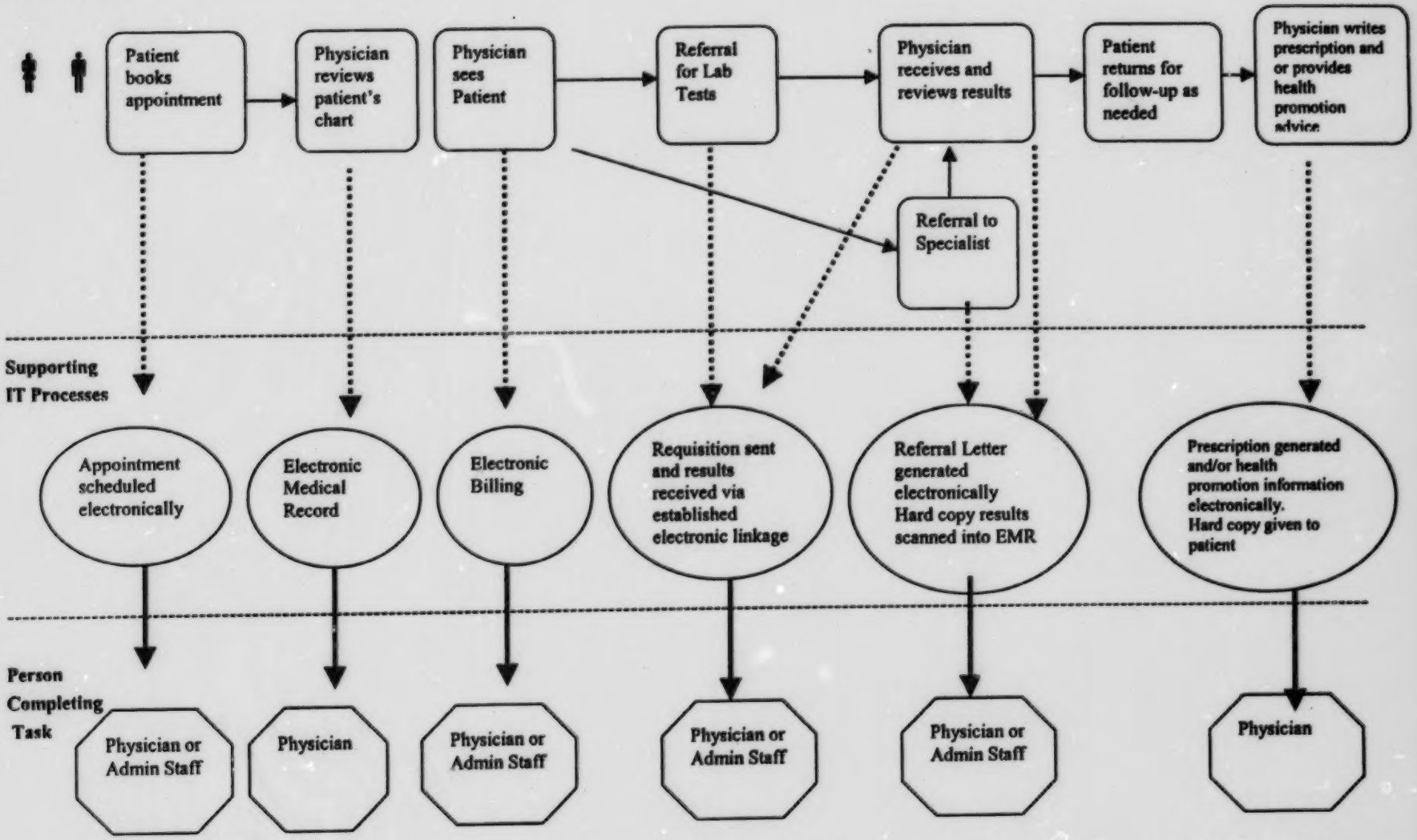
The reasons for ongoing dissatisfaction with specific IT systems or vendors in some of the PCNs are many and varied. Most physicians indicated that they were unprepared for the demands of the IT selection process. While an assessment of specific IT systems is beyond the scope of this evaluation, these concerns indicate a need to look at the type of support that physicians need when selecting their systems (e.g. a guidebook similar to the one prepared by the OMA,; a list of specific questions to ask vendors; a tool to assess the IT readiness of the physicians in their PCN, change management support to help physicians prepare for a new way of doing business, etc). For example, in British Columbia, the Primary Care Demonstration Project Office provided each project site with guidelines for computer technology acquisitions. [39]

10.2.4 Integration of required functions

The following graphic details how IT ideally can assist with all levels of patient care from intake to assessment to treatment.

[39] "British Columbia's Primary Care Demonstration Project Year One in Review: May 2001", British Columbia Ministry of Health Planning, page 26.

Sample Patient Flow


Patient books appointment
Physician reviews patient's chart
Physician sees Patient
Referral for Lab Tests
Physician receives and reviews results
Patient returns for follow-up as needed
Physician writes prescription and or provides health promotion advice
Referral to Specialist
Supporting IT Processes
Appointment scheduled electronically
Electronic Medical Record
Electronic Billing
Requisition sent and results received via established electronic linkage
Referral Letter generated electronically Hard copy results scanned into EMR
Prescription generated and/or health promotion information electronically. Hard copy given to patient
Person Completing Task
Physician or Admin Staff
Physician
Physician or Admin Staff
Physician or Admin Staff
Physician or Admin Staff
Physician

The balance of this chapter assesses the integration of information technology for each of the following functions that were required for conformance testing by the MOHLTC:

- Linkages to MOHLTC systems for enrolment (rostering), payment, service encounter information, Ontario Drug Benefit (ODB) medication history
- Primary care core data set (patient demographic, registration and medical information)
- Capability to link to other health providers such as laboratories and a telephone advisory service
- Clinical management tools for preventive care management, including drug utilization review, preventive screening and immunization routines
- Capability to access a network for the linkages defined above, and for internet and secure e-mail
- Security (access controls, audit trails, encryption)
- Practice management tools (e.g., OHIP billing, accounting, scheduling)

The following items are not currently conformance tested: capability to link to other health providers such as laboratories and a telephone health advisory service; and CMS drug utilization review. They will be tested later as the functionality becomes available. These features are under development by the vendors of the five current CMS products that have passed conformance testing.

10.3 Linkages to MOHLTC Systems

Physicians in the pilots have electronic linkages with the MOHLTC for the purpose of submitting service encounter information and payment claims.

According to the Ministry, the online enrolment module is ready, however, its release has been delayed due to issues regarding security and access that have not yet been resolved. Therefore, online enrolment is not currently available. This is a source of frustration for many physicians and office staff who look forward to the time savings that this module will offer.

The ability to request current ODB medication information from the Ontario Drug Benefit Health Network and integrate it into the patient record was identified by the Ministry as a function that would be tested "later" as the functionality becomes available.[40] Currently, PCNs are not able to access the Ontario Drug Benefit (ODB) database. The Ministry is developing an interim application to produce reports via disks and paper.

[40] Global PCN Agreement, Appendix I.

10.4 Primary Care Core Data Set

The core data set[41] is a subset of the cumulative patient profile shared locally within the PCN with other affiliated physicians who will assist with an enrolled person's care delivery. It includes:

- Patient demographic and registration information:
    - Ontario Health Number and Ontario Health Card Version Code
    - Patient Names
    - Sex/Gender
    - Date of Birth
    - Language Preference Code
    - Mailing address according to Canada Post standards
    - Residence address
    - Telephone numbers
    - Health Card Type
    - Health Card Renewal Date
- Medical Data:
    - Problem list, co-morbidity
    - List of immunizations, screenings
    - Current medications
    - Laboratory results
    - Drug allergies
    - Risk factors
    - Alert actions
    - Significant family history
    - Significant social history

Based on the site visits, it appears that many, but not all, of the physicians with fully installed information technology systems are recording patient demographic, registration and medical information on their computers. The systems are able to identify rostered patients. In many cases, this supplements rather than replaces the recording of the same information in paper charts.

Some of the PCN physicians are using an electronic medical record on a regular basis. The electronic medical record generally follows the commonly used SOAP format (subjective, objective, assessment plan). Some systems use template-based systems with limited free text capabilities, while others rely more heavily on free text entry. All systems appear to have some search capability and the ability to generate statistics and extract information. At least one of the vendors has a plan to integrate their EMR into a hand-held device such as a Palm Pilot.

[41] Global PCN Agreement, Appendix I.

For many other physicians, the use of an electronic medical record for all patients remains a long-term goal. Some of the barriers that physicians have identified are:

- Scanning and data entry are time consuming; some physicians have hired staff for scanning; one physician noted that the amount of time his staff are spending on data entry has limited the amount of the time they can spend on prevention activities; Physicians stated that the Ministry funding did not support high-speed scanners. According to the Ministry, however, it has funded high-speed scanners (at two-thirds) for those physicians who have requested them.
- Fear of loss of detailed information
- Lack of typing skills
- Discomfort with information technology
- Difficulty changing traditional style of practice
- Lack of dedicated time to learn the system
- Perception that use of computers in the examining room are a barrier to eye contact with the patient

The example below demonstrates that there have been some significant achievements in terms of the use of electronic medical records:

> Nineteen of the 21 physicians in ***Innovations PCN*** in Hamilton intend to move towards the full use of electronic medical records. The remaining two physicians will maintain the electronic medical record profile only. One physician reports that he has had a "paperless" office for a year and a half. "I single handedly entered all my patients into the system. It was extremely time consuming but very educational. It gave me a view of 25 years of practice".

10.5 Capability to Link to Other Health Providers

Laboratory Linkages
Some of the PCN physicians have an electronic link to a local private laboratory. Most of the physicians that have a "lab link" are pleased with the function and report that it is easier and saves time. Requisitions can be electronically generated and sent manually to the laboratories. Laboratory results are received electronically and can be reviewed by the physician. For most PCNs, electronic linkages only exist with private laboratories.

Some physicians have encountered barriers to attaining a lab link. They include:

- The inability of the lab to accommodate an electronic linkage
- Labs do not have a standard electronic requisition form
- Reluctance of labs to invest in development of an infrastructure to support electronic linkages to physician offices in the absence of provincial standards

- Reluctance of labs to invest in establishing a linkage to a small PCN
- The lab in closest proximity to the physician's office is a hospital lab that cannot link with external third parties. One exception is Chatham. All physicians in Chatham can dial up their local hospital and view lab results and other records. This capability, however, is not tied into the clinical management system.

Links to other providers
Beyond the lab linkage capacity in some physician offices, PCNs do not appear to be linked electronically to any other health service providers.

PCN physicians are not linked electronically to the telephone advisory service. Patient encounter information is transmitted from the telephone advisory service to physician offices by fax. Most physicians review the encounter sheet and file it in the patient's chart. Some physicians have noted that the paper encounter sheets are inconsistent with the goal of moving towards electronic medical records. Scanning is an option however, physicians report that this is too time consuming and when the information is scanned it is not searchable.

10.6 Clinical Management Tools

Clinical management tools for preventive care management
Clinical management tools for preventive care management are being used in the pilots, but not by all physicians. Some of the ways that these tools are being used to improve the quality of care include:

- Preventive reminders that alert physicians when a patient should have a preventive intervention (e.g. pap tests, mammograms, immunizations, folate vitamins for women of child-bearing age, blood pressure checks, diabetes monitoring)
- Recalling patients whereby the computer tracks who should be coming back and when so staff can follow-up (e.g. for monitoring of cholesterol levels, glucose levels, etc)
- Identifying all patients taking a certain drug (e.g. recently "baycol", a cholesterol lowering drug was identified as potentially dangerous, one PCN physician reported that he was able to identify all of his patients on that drug within minutes and notify them the same day)
- Graphing patient information (e.g. blood pressures, baby weights, body mass index, patient medication profile)
- To access patient education materials that can be printed off and given to patients

Templates/Stamps
Another function of clinical management tools that is being used by many physicians is the concept of "templates or "stamps". Templates/stamps provide the physician with a framework for certain types of patient encounters. It provides the physician with prompts about what areas to investigate, what questions to ask, what tests to order, etc.

The software usually comes with some basic templates (e.g. physical exams) and a general visit outline (most use the SOAP approach - subjective, objective, assessment, plan). However, with proper training it is quite easy for physicians to develop their own templates based on their particular patient population. Some physicians have developed their own templates for common conditions (e.g. diabetes). One of the benefits of being part of a network is that some physicians are sharing their customized templates with other physicians in the group.

Prescriptions
Many physicians spoke highly of the ability to generate the prescription electronically. This has especially been useful for patients who require numerous medications and for physicians who admit to having poor handwriting. One physician did mention that in her office, computer generated prescriptions were more time consuming because she does not have a printer in the exam room and has to leave the room to collect the script. It is not yet possible to transmit prescriptions directly to the pharmacy.

Consultation Reports
Since specialists and hospitals are not electronically linked to primary care physicians, consultation reports must be scanned in with a scanner. This has caused a great deal of frustration. One physician estimated that it takes two minutes per page to scan in a letter. To deal with the speed of scanning, some physicians reported having upgraded to a high-speed scanner at their own expense. As noted above, according to the Ministry, the Ministry has funded two-thirds the cost of such scanners when requested. From a financial perspective, it takes too much time for administrative staff to scan in results. In addition, once scanned in, the file is too large and takes up too much memory. Lastly, the scanned file is a picture file and hence text searches cannot be conducted on consult reports.

Drug Utilization Review
The ability to perform Drug Utilization Review (DUR) for drug-to-drug interactions using the Ontario Drug Benefit Health Network was identified by the Ministry as a function that would be tested "later" as the functionality becomes available.[42] This functionality is still under development and is only available to some users..

10.7 Capability to Access a Network

Network access for the linkages defined above, and for Internet and secure e-mail is behind schedule. Progress has been slower than expected on the development of intra-office communications software because Ministry standards have not been finalized. The result is that PCNs do not have secure e-mail. Practices in different locations cannot share data and practices in the same location that have different systems are also unable to communicate.. This has been a great source of disappointment.

[42] Global PCN Agreement, Appendix I.

10.8 Security

There have been delays in the implementation of certain security features. Secure e-mail is not currently available to physicians. Issues around privacy and public key infrastructure remain unresolved.

10.9 Practice Management Tools

Practice management tools are commonly used in the PCNs. All of the offices with fully installed information technology systems are using practice management software for appointment scheduling and billings. Many are also using information technology for generating prescriptions.

Electronic Scheduling
The first step in accessing the services of a PCN is usually scheduling an appointment with the PCN physician. All offices indicated that the administrative staff are responsible for scheduling patient appointments, although in some cases, the physician and other health care providers (e.g. nurse practitioners, dieticians, and mental health counsellors) are also responsible for scheduling patients. It appears that all offices are using some form of an electronic scheduling system. This has improved office efficiencies as follows:

- The scheduling software allows physicians and other providers to view the status of their daily appointments from their offices (e.g. who is waiting, when they arrived, who is late, etc.) so that they can manage their time more effectively
- When appointments are made electronically discrepancies in identifying the "right" patient are eliminated by prompts that alert the scheduler if there is more than one patient with a particular name; the office staff can then ensure that the right chart is available for the physician prior to the arrival of the patient
- Office staff report that automated scheduling is faster and easier

One physician has created a website that offers online appointment bookings.

> A physician at ***Intramed PCN*** in Hamilton has established a website to make it easier for patients to access his services. The ***website (www.hso.com)*** provides patients with information on the types of services offered. It also allows patients to book and change appointments online and request services such as back to work notes.

Billing and Accounting
All physicians in the PCNs are using electronic billing software. Office staff report that this is faster than a manual approach. In some cases physicians are doing their own billing without assistance from their clerical staff. Many physicians are also using practice management software for accounting purposes. One of the reasons why

some physicians are not using the accounting features is because their accountant utilizes a different approach.

10.10 Stakeholder Expectations of PCR Information Technology

Provincially, there appears to be a misalignment between what the physicians expected of the IT component of the reform and the progress that the Ministry has made to date. Specifically, physicians expected to have online enrolment, drug interaction software, secure e-mail, remote access for billings and notes, connections between all of the offices in their network, linkages to hospitals, linkages to the various labs that they might use and linkages to pharmacies. Even, physicians in the newer PCNs share these expectations. Key informant interviews with community partners (e.g. hospitals, CCACs) confirm that many other stakeholders also had the expectation that PCNs would have electronic linkages to other health service providers.

In some cases, the Ministry/OFHN have clearly not met their timelines for the development of specific IT components. In other cases, physicians have been confused by what was promised under primary care reform and what was promised under Smart Systems for Health (SSH). SSH is a broad health system initiative with the following priority areas: Primary Care, Community Care Access Centres (CCACs), Children Services, Labs, Drugs, HIV/AIDs and development of an Emergency Health Record. Some the goals of SSH[43] include:

- Allow for the secure collection, storage and exchange of personal information where appropriate
- Provide a comprehensive security infrastructure to protect the confidentiality of health information
- Provide the information tools and resources necessary to support the integration of the health system

The development of SSH has been delayed. For example, security issues such as PKI (public key infrastructure) are taking much longer to resolve than anticipated. This has clearly had an impact on what is possible within the primary care reform pilots. On a positive note, the Ministry is attempting to respond to the concerns about the lack of external linkages and there is joint planning occurring between OFHN and SSH.

10.11 Summary and Discussion of Key Issues

It is difficult to make general statements about the success of the IT integration because the experiences vary greatly from network to network and from physician to physician.

Where physicians are pleased with the system they have selected and they have embraced the challenge of integrating IT into their practice great things are happening. Many of these physicians report that IT has improved their ability to target preventative

[43] Speech by Chris Hodgson to the Information Technology Association of Canada (ITAC), January 31, 2001

interventions; processes have been simplified with electronic health records, lab links and prescription writer; they are making good progress towards "paperless" offices; and they have experienced administrative efficiencies. These achievements contribute to improved quality of care and increased physician satisfaction.

It is important to note that many of the physicians who are reporting high levels of satisfaction with IT now, did struggle through the selection, acquisition and implementation process. Some feel that the short-term pain was worth it for the long-term gain however, most hope that ways will be found to minimize the implementation problems and make it easier for new physicians coming on board. These positive experiences indicate that progress is not impossible and that there are opportunities to learn lessons about the critical success factors for IT integration (i.e. why does it work for some PCNs/practices/physicians and not others?)

In contrast, where physicians are unhappy with their system or are unwilling/unable to move beyond the administrative functions of their systems, less progress is being made. This situation is worrisome because IT has emerged as one of the top reasons for getting involved with primary care reform. It has the potential to be a major incentive but only if the areas of widespread dissatisfaction are addressed.

Some of the issues that are posing barriers to moving forward with IT are not unique to primary care reform in Ontario. The evaluation of primary care reform in B.C. found that "the computer implementation phase was time consuming and frustrating for all the sites." The implementation challenges led to delays and as a result most projects are in the process of building their electronic medical record. Like Ontario, the B.C. evaluation concluded that "those sites that have made progress in this regard [i.e. electronic medical records] report that they find the technology helpful with respect to tracking patient health problems, and the concise summary of patient information facilitates patients' health history review."[44]

In a 1994 article, Reed and Lundsgaarde[45] review the results of several other researchers and conclude that "the limited diffusion and under-utilization of these [IT] systems relate to a wide variety of psychological, social, organizational and management factors that characterize the contemporary health care setting." One such issue is physician attitudes about IT.

There are many factors that affect physician attitudes about IT. While some of the physicians interviewed for this evaluation reported that age is a factor, the literature indicates that age is usually not a strong factor. Some factors that do seem to be

[44] "British Columbia's Primary Care Demonstration Project Year One in Review: May 2001", British Columbia Ministry of Health Planning, page 34.
[45] Reed, Gardner and Lundsgaarde, Henry. "Evaluation of User Acceptance of a Clinical Expert System". Journal of the American Medical Informatics Association, 1994; 1:428-438, p. 429.

important are: self-rated skills, typing ability, maximal frequency of prior computer use, computer ownership and computer anxiety.[46]

The importance of physician attitudes to the successful use of IT systems is a common theme in the literature. Brown and Coney suggest that negative attitudes toward computers represent a potential barrier to computerization of the medical record. [47] Bailey (1990) states that:

> *The way in which computer users react to various aspects of the systems they employ is a critical success criterion for information systems. If satisfaction levels are high, the user will adapt his/her activities to take advantage of the computer. Should satisfaction levels get too low, the user may cease to cooperate and may even become antagonistic toward the system. Therefore, measuring and managing users' attitudes toward various aspects of their information systems was an important part of making those systems successful.*[48]

Another common theme that is proving to be a barrier to integration is the issue of unclear expectations about IT both in terms of the functionalities and the timelines. As the province moves forward with IT, a key factor in minimizing physician dissatisfaction with IT will be for the Ministry and OFHN to communicate clear expectations and then ensure that these expectations are met within the timeframes promised.

The functionalities required for PCR in Ontario are relatively basic and not particularly leading edge or innovative. Globally, there are numerous examples of physicians taking IT beyond what is expected in Ontario. Examples include electronic linkages to other health providers, use of web-enabled solutions, wireless technologies such as palm pilots and e-case management. Some European countries have already introduced smart card technology.

Finally, the slow pace of the Ministry's roll-out of the IT initiative has had a strong bearing on the degree of progress achieved. A number of the features that were promised for primary care reform are not yet available (e.g. online enrolment, secure e-mail). This is particularly disappointing given that the mandatory functionalities for primary care reform in Ontario are relatively basic when one considers what IT systems are capable of and what is being done in other jurisdictions. A commitment on the part of the Ministry to adequate funding and a resolve to hasten the development and implementation of the IT component of primary care reform will be critical to the successful integration of IT into physician practices.

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[46] Brown, Steven and Coney, Robert. "Changes in Physicians' Computer Anxiety and Attitudes Related to Clinical Information System Use". Journal of the American Medical Informatics Association, 1994; 1:381-394, p. 393.

[47] Ibid, p. 381.

[48] Reed, Gardner and Lundsgaarde, Henry. "Evaluation of User Acceptance of a Clinical Expert System". Journal of the American Medical Informatics Association, 1994; 1:428-438, p. 429.

11. Becoming a PCN Patient

"Accountability mechanisms in primary health care reform involve multifaceted arrangements...Providers are accountable to the patient for the provision of services and to the government for appropriate use of funds; and the patients are accountable to the provider and the government to use the system responsibly. In essence there is a balanced accountability between physicians, patients and the government. The accountability relationships ....between the PCN physicians and patients will be reflected in written agreements which set out reasonable obligations and entitlements of each party." (Primary Care Reform- Site Information Package, July 1998)

This quote highlights the premise behind rostering patients to PCN physicians. The following section examines current issues related to rostering patients in the pilot sites.

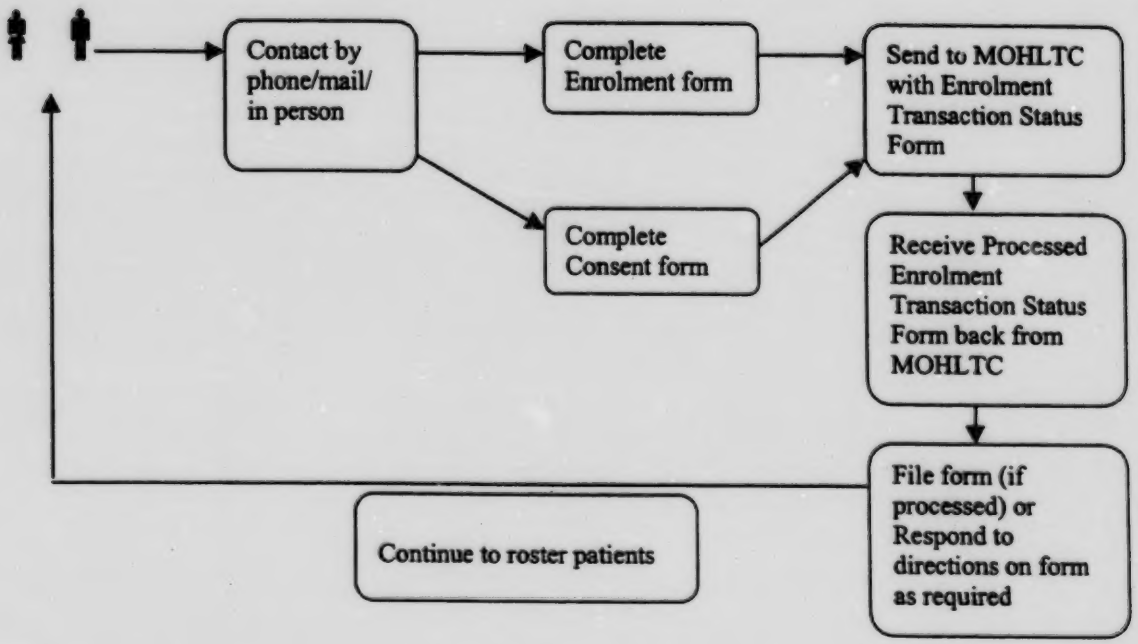
11.1 Enrolment Process

Under the terms of the PCN agreement, the PCN physicians shall offer every patient in each of their practices the opportunity to become an Enrolled Member if the patient:

(a) is, at the time of enrolment, an Insured Person,
(b) resides in the PCN Area, and
(c) is not a resident of a Long-Term Care Facility.

In addition, if a PCN physician was a member of an HSO immediately prior to the Effective Date of the PCN agreement, the PCN physician shall offer the opportunity to enrol to each Rostered Member in his or her HSO practice.

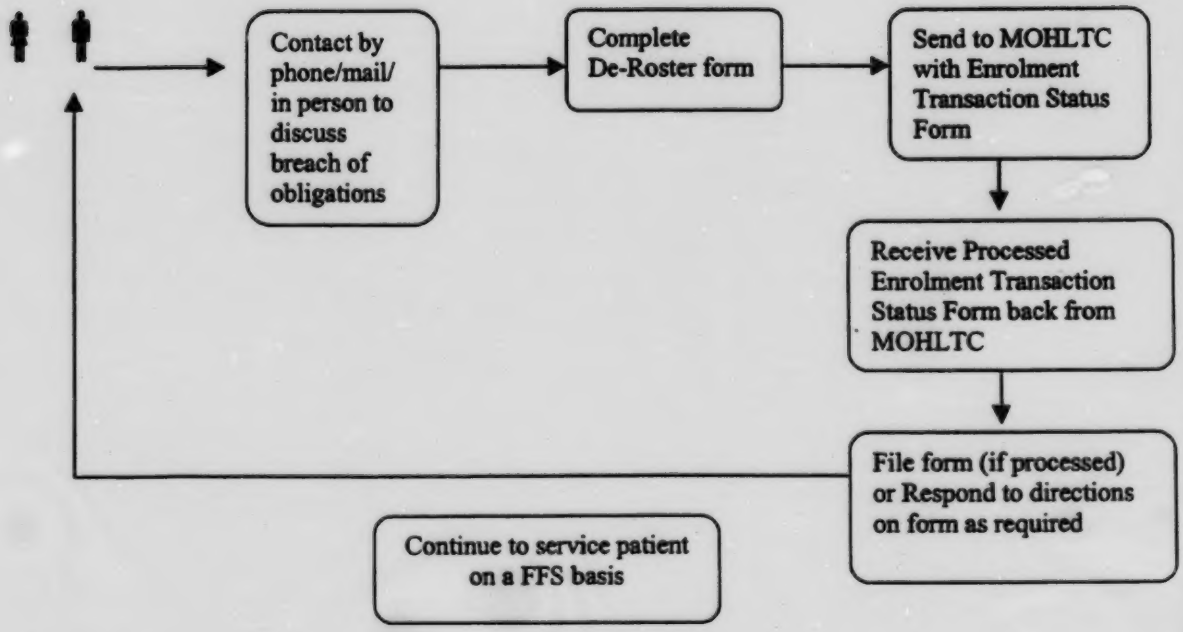
The following is a depiction of the enrolment process.


Contact by phone/mail/ in person
Complete Enrolment form
Complete Consent form
Send to MOHLTC with Enrolment Transaction Status Form
Receive Processed Enrolment Transaction Status Form back from MOHLTC
File form (if processed) or Respond to directions on form as required
Continue to roster patients

With the exception of the two newest PCNs (Parry Sound and West Carleton), all of the PCNs are well into the rostering process.

Under the terms of the PCN Agreement, a PCN physician may also remove any person from his/her roster if the person does not fulfil the obligations of the Patient-Physician Enrolment Agreement. Prior to removal, the physician is required to notify the patient of the reasons for his or her removal from the roster and provide him or her with an opportunity to respond.

The following is a depiction of the de-rostering process. The first step is obviously omitted where the reason for de-rostering is death or the patient has moved out of the PCN's catchment area.


Contact by phone/mail/ in person to discuss breach of obligations
Complete De-Roster form
Send to MOHLTC with Enrolment Transaction Status Form
Receive Processed Enrolment Transaction Status Form back from MOHLTC
File form (if processed) or Respond to directions on form as required
Continue to service patient on a FFS basis

Some PCNs have de-rostered patients for outside use. Some have followed the process of discussing the breach of obligations with the patient, while others simply fill out the de-roster form. Stated reasons for de-rostering patients have included:

- Patient moved to a location outside of the PCN catchment area
- Patient requires weekly allergy injections and finds it more convenient to use walk-in clinic
- Patient mistrusted government and felt more comfortable not being part of the PCN (this is also a reason why patients do not roster in the first place)
- Personality conflict with physician
- Patient is a frequent user of a walk-in clinic, a sports medicine clinic or other service alternative
- Patient admitted to hospital or a day hospital for a lengthy period of time

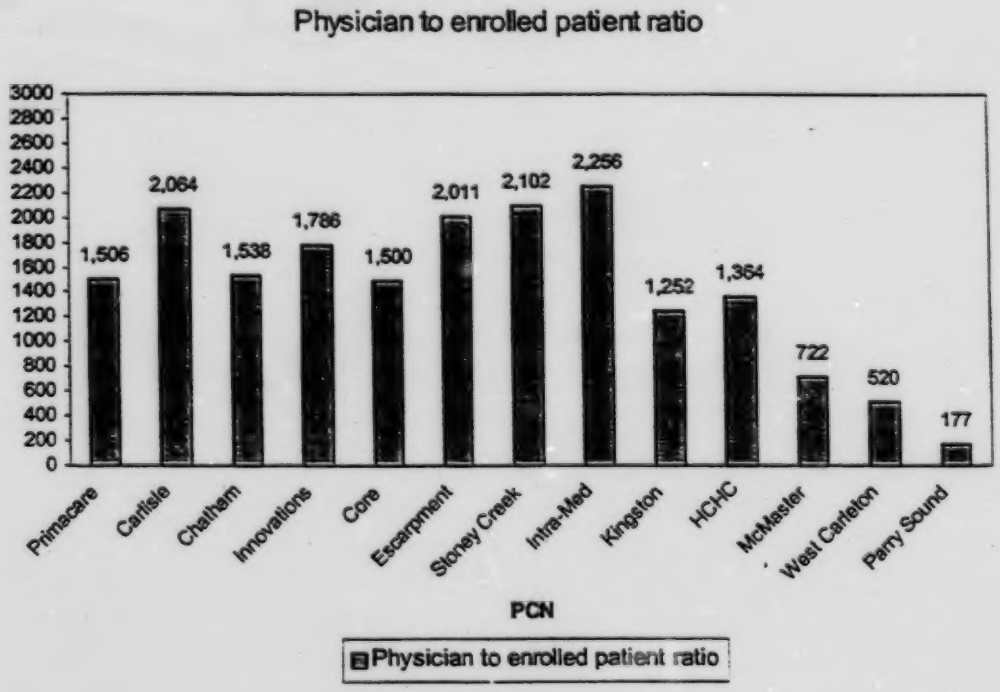
11.2 Enrolment by Volume

As of October 5, 2001 the 13 active PCNs had enrolled a total of 245,353 patients. The number of enrolled patients per PCN ranges from 2,825 at Parry Sound to 42,238 at the Hamilton Escarpment PCN. The average number of enrolees per PCN is 18,873. Not including the two newer PCNs (Parry Sound and West Carleton), the average number of enrolees per PCN is 21,764 patients.

Some PCNs are continuing to roster patients, while others have essentially closed their practice and will only roster a patient's family members. Others report that they will only take new patients if they agree to be rostered.

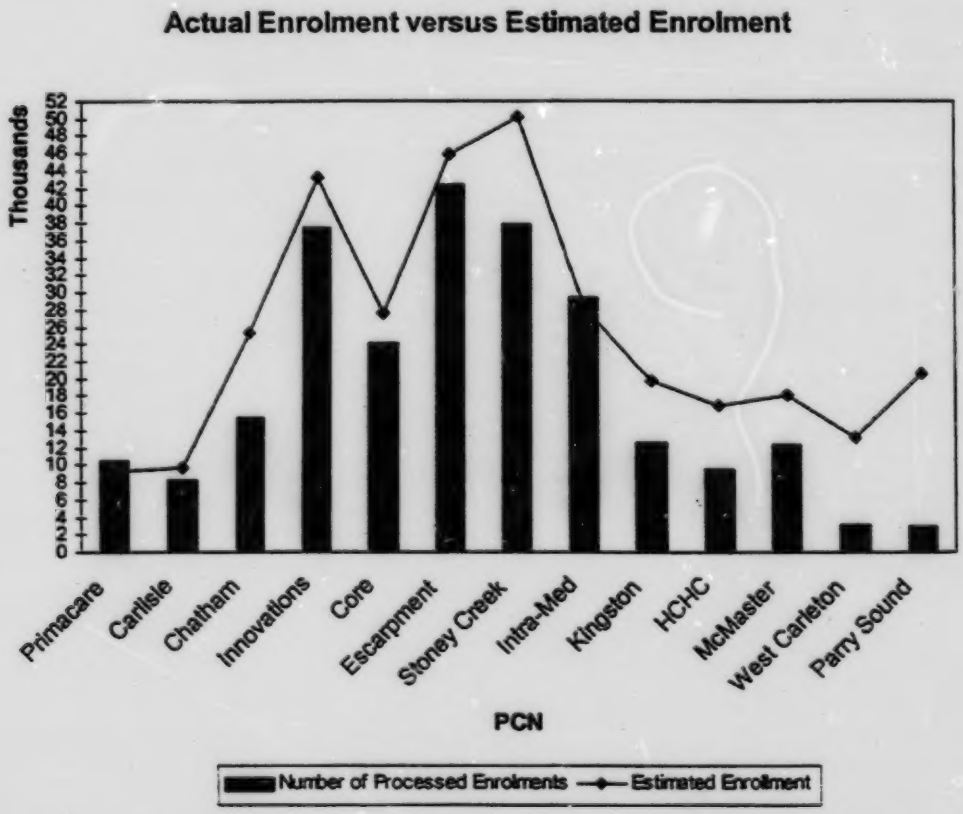
It is important to account for the different start-up times in examining the number of enrolees per network. Parry Sound is the newest of the 13 PCNs and has been in operation for six months. The Primacare PCN was the first to sign their agreement. The Chatham PCN had the longest period between signing their agreement and becoming active to bill.

The following graph highlights the number of patients enrolled per network per physician (in essence, the physician to enrolled patient ratio) with the networks grouped from oldest to newest. As noted earlier, this ratio does not account for the number of unrostered patients in a practice, and hence should not be considered a representation of workload.



11.2.1 Estimated Enrolment

The graph below compares actual enrolment at each PCN, as of October 5, 2001, with estimated enrolment. As with the graph above, PCNs are listed from the oldest to the newest.



When the physicians joined PCR, they were required to estimate how many patients they thought they could enrol. This estimate was determined differently since some based their patient numbers on a minimum requirement, while others tried to determine the size of their practice. To date, two of the PCNs (Primacare and Intramed) have exceeded their estimated enrolment and six PCNs are above 80% of their estimated enrolment. Again, it should be noted that physicians who were unable to accurately assess the size of their patient load may have erred on the generous side in order not to be caught in the limit of 2,200. Thus the estimated enrolment is likely an overstatement for many of the networks. One of the newer PCNs, West Carleton has indicated a concern about rostering patients because of delays in setting up the teletriage line for these patients, as promised. This, they feel, adversely affected their credibility.

11.3 Rostering Study

The MOHLTC has commissioned the McMaster PCN to undertake a rostering study. The objective of the study is to determine the most effective method for rostering patients. The study will also examine the reasons why patients refuse to roster. There are five rostering groups. All five of the study groups received walk-in or office-based enrolment (i.e. rostering is offered to patients in person at the physician's office rather than via mail), four groups also received mail-outs. . Physicians must roster patients based on the predetermined method. Weekly roster counts are provided to physicians at the two locations (McMaster and Stonechurch) through a contest affectionately known as "Roster me up Scotty". A rostering co-ordinator was hired to deal with the details of this research study.

11.4 Other Rostering Models

Different approaches have been taken to rostering patients in other jurisdictions. In the United Kingdom, under Primary Health Care Groups, patients can enrol with a physician or nurse practitioner and a physician. Patients complete a rostering card.

In British Columbia, in the Primary Care Demonstration Project (PCDP), the decision was made to test virtual patient rostering whereby a practice's patients population was defined retrospectively based on an analysis of past claims data. With this method, patients are not required to enter into a formal agreement with the physician. The PCDP does, however, educate patients through brochures as to the project goals and the benefits of continuity of care. Patients were added or removed from the practice register based on whether they were receiving the majority of their primary care from the practice. The initial register was created by reviewing each practice's past three years of claims data.

11.5 Community Education and Awareness

Some PCNs have taken steps to increase community awareness of their PCN in order to attract patients. Some of the methods that have been used include:

- Town hall meetings
- Mail outs
- Hand-outs
- Posters
- Media coverage
- Telephone follow-up
- Designated rostering days e.g. Saturdays
- Rostering during a flu clinic
- Open houses

Despite these efforts, many stakeholders indicate that awareness about PCNs is not widespread in most communities.

11.6 Key Issues

The Phase 1 Report highlighted in great detail, the concerns expressed by many of the networks on the rostering process. It is not our intention to repeat these concerns, but rather to focus on the concerns that persist. Three concerns were raised during the course of our site visits: 1) rostering as a form of accountability; 2) roster limits; and 3) the ongoing rostering process.

11.6.1 Rostering and Accountability

As noted in the opening quotation, rostering was intended to affirm the accountability of both providers and patients to PCR. For some physicians, rostering was an important process as it re-affirmed their commitment to their patients.

> *I feel a closeness to my patients that I may not have felt before...we have something to bind us together in the form of a contract. (PCN physician)*

For others, rostering was just something that had to be done. As such, some physicians scheduled one-half hour appointments with their patients to explain rostering, while other physicians had their receptionists fill in the forms and asked patients to sign it.

According to physicians, many patients do not understand the concept and implications of rostering. According to one physician "*patients don't have a sense of partnership in this reform.*" Furthermore, several physicians indicated that patients do not understand their role regarding outside use, and that there is a lack of accountability on the part of patients regarding this matter. Many physicians indicated that patients as well as the physician should be held accountable.

11.6.2 Roster limits

In many of the PCN communities, such as Chatham, Hamilton and Paris, physicians in other practices have recently retired or left the area, leaving many patients un-serviced. Many physicians reported that they felt that roster limits were not appropriate when there is a physician shortage and limit access to care as without roster limits, they would open their practice

> *Roster limits are a joke when there's a shortage of physicians. (PCN physician)*

The quote above reflects concerns by some physicians that in under-serviced communities, roster limits are limiting access to care. In the absence of such limits, physicians would be able to open up their practices to accommodate patients in need of a family physician. While this may assist in servicing patients without physicians, it is

clearly only a temporary solution. Additionally, some physicians indicate that they are already too busy and it is not practical to increase their roster limits.

During the establishment of PCNs, physicians with rosters larger than 2,200 were granted exemptions and given higher roster limits. According to the Ministry, currently 48 physicians have roster limits in excess of 2,200. As well, physicians are able to combine their roster limits to account for differences in practice sizes. If PCN physicians were finding roster limits were restricting patient access to care then the physicians would be providing services to these patients on a fee-for-service basis and one would expect physicians to be exceeding their hard cap ($30,000 FFS limit on included services to non-enrolled patients). However this is not the case, particularly in networks where the hard cap is pooled. Therefore, in reality, roster limits may not be limiting access to care, as some physicians have reported.

11.6.3 Rostering Process and Procedures

Although most physicians indicated that they are spending less time on rostering now then during the hectic implementation stage, the PCNs continue to express frustration over the bureaucracy of rostering and de-rostering and the number of forms involved. Some suggest that on-line rostering would have made the process much more effective. Also the complexity of the forms and the problems the patients have in completing the forms increases administration time.

11.7 Summary

As of October 5, 2001 the 13 active PCNs had enrolled a total of 245,353 patients. The average number of enrolees per PCN is 18,873 (including the new PCNs). With the exception of the newest PCNs, most of the networks are past the bulk of the rostering process.

Rostering was intended to be about more than just signing up with a physician. The process of signing an agreement outlining the obligations of both patient and provider was intended to encourage a sense of accountability on the part of both parties to the goals behind PCR: providers would provide patients with a comprehensive range of primary care services and patients would only go to those providers for these services. While some physicians have used the process of rostering to re-affirm their commitment to their patients, others have seen rostering as just something they had to do to be part of the PCN. The fact that so much paperwork and administration is involved with the rostering process only serves to perpetuate this sentiment. While some physicians feel that patients have been engaged by rostering as was initially intended, many feel that rostering has not increased patient affinity.

Physicians reported their feeling that roster limits are frustrating other PCR goals such as access to care, especially in under-serviced communities. This may only be their perception of the problem and not necessarily supported by evidence.

12. After-Hours Arrangements

One of the most publicized features of the primary care reform model is the provision of 24-hour access to care. This section explores the components of 24-hour access. They are:

- Regular (day time) office hours for physicians
- Extended (weeknight/weekend) hours for physicians
- Coverage for physician absences (e.g. vacation, holidays, illness, education)
- After-hours teletriage service

12.1 Regular Office Hours

The majority of offices interviewed during the site visits indicated that their regular office hours are essentially the same as what was in place before primary care reform. All offices appear to be open five days per week, with hours of operation ranging from 7:00 a.m. to 6:00 p.m. Many offices indicated that they are closed at least half a day per week, usually on Wednesdays and/or Fridays. Most physicians noted that they are not able to see patients five full days per week because of other professional commitments such as administrative work, long-term care facility responsibilities, hospital responsibilities, etc. Also, some of the physicians in the pilots have part-time work schedules.

The ease with which patients can access their physician during regular office hours for urgent same/day appointments is important. A number of physicians noted, that when patients cannot get a same day appointment for a problem that they think requires urgent attention they go to walk-in clinics and this affects the physician's negation rate. Some PCNs have implemented strategies specifically to improve patient's access to same day appointments.

Physicians in the ***Parry Sound PCN*** have a rotation system whereby each weekday morning there is a designated physician to deal with same day appointments or patients that present without an appointment.

At the ***Rosedale Clinic*** location of the Escarpment PCN, it is the nurse practitioner's role to see all same day appointments and patients without an appointment. The nurse practitioner triages the patients and handles those cases within her scope of practice. The physician is called for serious problems that require urgent physician attention.

12.2 Extended Hours of Care

PCNs are required to provide service to rostered patients beyond regular office hours as follows:
PCN's must agree to provide extended hours of care that cover both weeknights and weekends. These hours will be negotiated with each site, but must include some evening and weekend coverage.

Week night coverage should be available in at least one PCN location from 5:00 - 9:00 p.m. Weekend office hours will be determined by practice type and population need.[49]

Many offices reported that they provide extended office hours at least one day per week. A few offices report that they employ a nurse practitioner to see patients in the evenings. In addition, some offices indicated that they are open on Saturdays and Sundays for urgent care, although the hours of operation vary. In most cases where the PCN office is open on weekends, it is usually run by the physician on-call.

The development of arrangements for extended hours is one example of how some of the PCNs have engaged in joint planning. For others, the current extended hours arrangements existed prior to primary care reform.

The number of physicians in the network affects the ability of the PCN to provide extended hours of care.

12.2.1 Snapshot of on-call arrangements for Canadian family physicians

As a backdrop for an assessment of what has been implemented for primary care reform, it is interesting to look at the overall on-call situation for Canadian family physicians. The following results are from the Canadian Medical Association's 2001 Physician Resource Questionnaire:

- 68% of GPs/FPs take call and/or share call
- Of those GPs/FPs who take call, 35.6% have shared call responsibilities as part of a defined group of physicians only, 28.1% have responsibilities as part of a hospital or other health facility, 2.8% have other arrangements and 26.9% have a combination of responsibilities
- Of those GPs/FPs who take call, 81.3% do so by carrying a phone or pager, 32.7% provide on-site on-call duty and 6.7% do so by checking with an answering service or voice mail
- Of those GPs/FPs who take call, 31.3% spend more than 120 hours/month (approx. 15 days) on shared call responsibilities (i.e. call that includes patients other than their own)

[49] PCR Information Package, June 27, 2000

- The amount of time spent attending to the needs of on-call patients varies: 34.1% of GPs/FPs spend 10 or fewer hours per month; 27.5% spend 11 to 40 hours per month; 22.9% spend more than 40 hours per month (the remaining 15% did not respond to the question)

12.2.2 Specific PCN Arrangements for Extended Hours of Care

A number of extended hours arrangements are in place reflecting the unique features of each network and its community. A brief description of how extended hours of care are being delivered is provided in the table below.

The table shows that most networks are meeting the extended weeknight coverage requirements of their agreement.

Weekend office coverage is more difficult to assess. According to the PCR Information Package, "weekend office hours are to be determined by practice type and population need." However, there have been no guidelines provided on what patient types or population characteristics suggest a need for weekend coverage to facilitate monitoring of this feature by OFHN.

Extended Hours Arrangements

PCN	Extended Hours Arrangements
Chatham-Kent PCN	Various arrangements are in place. Some of the physicians participate in the Family Practice Clinic at the hospital which is open on weeknights from 4:30 p.m. to 10 p.m.
Hamilton – Carlisle PCN	Carlisle PCN is a single location network. The center is open until 9 p.m. Mondays to Thursdays and until 7 p.m. on Fridays. The Centre opens at 8:30 a.m. every weekday.
Hamilton – Core PCN	Weeknight coverage from 5 p.m. to 8 p.m. is in the office of the physician on-call, no central location for on-call weeknights. On weekends there are two separate call groups: the 6 physicians at King West Medical Centre share call with North Hamilton Community Centre; the other 10 physicians in the PCN have a shared call group. King West is open on Saturdays from 9 a.m. to 12 noon for the 6 physicians based at that location.
Hamilton – Escarpment PCN	Extended hours coverage is provided every evening at the Rosedale Clinic. Monday, Tuesday, and Thursday, the center is open until 8:00 p.m., Wednesday from 12 p.m. to 5 p.m., and Saturday/Sunday from 9 a.m. to 5 p.m.; six of the 21 physicians in this PCN are based at the Rosedale Clinic.
Hamilton – HCHC PCN	HCHC is a two location network with all but one physician in the same location. From Monday to Thursday, the centre is open until 8p.m. On Friday, the centre is open until 7 p.m. On Saturdays the centre is open from 9 a.m. to 12 noon. Outside of these hours, the physicians are available by telephone/pager based on an on-call schedule.
Hamilton – Innovations PCN	Extended hours coverage is provided every evening at the After-hours Clinic at the McMaster site of Hamilton Health Sciences

PCN	Extended Hours Arrangements
	Centre from 5 p.m. to 9 p.m.; the hospital supplies space, secretarial support and information technology for use by the primary care physicians; physicians receive reports on their patients seen at the clinic.
Hamilton – Intramed PCN	Weeknight coverage from 5 p.m. to 8 p.m. is in the office of the physician on-call, no central location for on-call weeknights.
Hamilton – McMaster PCN	The Stonechurch Clinic has maintained the provision of a 24/7 on-call schedule and weekend clinics for the physicians based at that location. For the physicians based at Hamilton Health Sciences Centre (McMaster site) there is an after-hours clinic. Medical residents are involved in taking calls after hours.
Hamilton – Stoney Creek & Mountain PCN	Extended hours coverage is provided every evening at the St. Joseph's Community Centre After-hours Clinic from 5 p.m. to 9 p.m.; the hospital supplies space, secretarial support and information technology for use by the primary care physicians; physicians receive reports on their patients seen at the clinic. From 9 p.m. to 9 a.m. the physician on-call is available by phone/pager.
Rural Kingston PCN	Sharbot Lake Clinic is open until 8 p.m. Monday to Thursday and on Saturdays from 10 a.m. to 2 p.m. for urgent and emergency issues. Verona is open until 7 p.m. on Thursday. Tamworth Medical Centre is open until 7 p.m. on Tuesdays and until 8 p.m. on Thursdays. The Centre opens at 8 a.m. five days per week. The Centre is also open on some Saturday mornings from 9 a.m. to 12 p.m. for the physician on-call. Newburgh Clinic is usually open every Monday until 7:00 p.m.
West Carleton PCN	The CARP location is open from 8 a.m. to 6 p.m. on Mondays, from 8 a.m. to 9 p.m. on Tuesdays, Wednesdays and Thursdays, from 8 a.m. to 4 p.m. on Fridays and from 11 a.m. to 12:30 p.m. on Saturdays and Sundays. Outside of these hours, a physician is on-call via telephone/pager. The weekend clinics are staffed by the physician on-call.
Paris PCN	The Urgent Care Clinic, located at the Willett Hospital, operates seven days per week from 10:00 a.m. to 10:00 p.m. (Monday to Saturday) and noon to 6:00 p.m. on Sundays. All of the PCN physicians take turns staffing this clinic on evenings and weekends.
Parry Sound PCN	After-hours care is provided through the hospital emergency department. The PCN doctors have a rotation schedule to cover evenings and weekends in the emergency department.

12.2.3 Benefits and Concerns with Extended Hours

Many physicians are very satisfied with their after-hours arrangements. Benefits include:

- The lifestyle advantages of spending fewer evenings/weekends on call
- Comfort in knowing the physician that will be looking after their patients after-hours
- Receiving reports on their patients that sought medical attention after hours (this typically comes from After-hours Clinics)

- It has taught them to "let go" and "not feel guilty" about not being available to their patients 24 hours per day, every day.

- Some physicians have raised the following concerns about after-hours coverage:

    - As network size increases, call group size increases. Therefore, although they are on-call less often, they are on-call for many more patients, so they are busier
    - The profile of the patients they are responsible for when on-call may differ significantly from their own patient profile

12.2.4 Other Issues related to Extended Hours of Care

Looking beyond the legal requirements of the agreement, there are some other issues of access that are worthy of consideration:

- Evening hours may not be the only way to offer improved access to patients. Some physicians provide improved access to patients who work during the day by also offering early morning appointments. For example, some individual physicians will see patients as early as 7 a.m. HCHC PCN opens at 8 a.m. three mornings per week.

- Some PCNs provide extended hours coverage in the same location every night; in other PCNs the location varies depending on which physician is on-call. There are pros and cons to both options that should be considered in planning. With a single after-hours location the patients always know where to go, promotional materials can be developed to educate patients about the after-hours location and an infrastructure can be put in place to support the after-hours "clinic". On the other hand, if the designated after-hours location is less convenient (e.g. greater travel distance, parking charges) for the patient than their doctor's office, the patient may not perceive this as improved access. Multiple locations that change every day may be confusing for patients. The extent to which this is a problem will depend on how often a given patient might be expected to access their physician after-hours.

- An important consideration in selecting a family physician is the ability to communicate. Individuals who are not fluent in English, are likely to specifically seek out a family physician who speaks their language. When these patients require care after hours there do not appear to be any provisions to meet their language needs (e.g. access to interpreters) if their family physician is not on call. This may contribute to the use of inappropriate service alternatives. This was a finding from an evaluation conducted at the Peter Lougheed Centre in Calgary, Alberta. The evaluation examined urban patients' choice of an emergency department as their first contact with the primary health care services project. The study found that "multicultural groups whose mother tongue is not English are more likely to use Emergency Departments for non-urgent situations."[50] Planning for the development

[50] "Advancing Primary Health Care in Alberta – Sharing the learning", page 16.

of PCNs in areas with culturally diverse populations will need to take this linguistic access into account.

- Preliminary patient survey results reveal the following:
    - Three our of ten (29.4%) PCN patients reported that their doctor's office was definitely open on weekends. Thirty-eight percent indicated that it definitely was not open on weekends. PCN patients were more confident about their doctor's office being open weekday evenings, with 45.5% saying that the office was definitely open, 14.1% indicating it was probably open, and only 19.5% reporting that it was definitely not open. Notably, 7.8% of patients were not sure if their doctor's office was open on weekends, and 10.5% were not sure if it was open weekday evenings.
    - By way of comparison, just over half (56.6%) of Ontario respondents said that their regular doctor provides or arranges health care on evenings and weekends.

12.3 Coverage for Physician Absences

In addition to after-hours coverage, it is also very important for PCNs to plan for vacation coverage and coverage for other absences (e.g. illness, CME, etc). Many physicians indicated that one of the most important benefits of being part of a network of physicians is the collaboration around this type of coverage. For example, some physicians report that, as a result of the arrangements they have implemented, there is no longer a need to find and pay locums when they are away on vacation.

One PCN reported that the cultural/religious diversity among its members yielded an important benefit in terms of holiday coverage, because they did not all celebrate the same religious holidays.

It appears that the more physicians there are in the network, the greater the number of options for coverage arrangements. Some of the relatively large PCNs have developed policies or guidelines that set out how vacation coverage and extended sick leaves will be handled. These lessons should be shared with other PCNs, particularly the new ones.

Examples of some of the approaches that are being taken include:

Stoney Creek & Mountain is a large PCN with 18 physicians and close to 40,000 enrollees. The network has divided the physicians into smaller, more manageable groups (approximately five physicians) for the purpose of covering absences. This has allowed each group to develop unique, flexible arrangements that meet their specific needs. One of the physician groups has put a payment mechanism in place for covering each other. Reimbursement is at OHIP rates if another doctor covers for vacation, time off, etc. There is no minimum time requirement for when this mechanism is used.

Another group in the PCN has agreed to a number of common terms for vacation coverage including: five weeks vacation per year each; when a physician is away, his/her secretary must stay in the office to answer calls and re-route patients to the other doctors in the group; no two physicians in the group can be away at the same time. This group of physicians has chosen not to reimburse each other financially for coverage.

Innovations PCN is another large PCN with 21 physicians and approximately 40,000 enrollees. They have also chosen to divide into groups of five or six physicians for holiday coverage. This PCN is also working on a policy to address how and for how long, the PCN will provide coverage when a member is absent for an extended period of time.

Overall, most physicians feel that after-hours coverage and group arrangements for holiday coverage have improved continuity of care and increased physician satisfaction.

12.4 After-hours Teletriage Service

In recent years, the use of telephone services in primary care settings has received attention in Canada. Many provinces have introduced some form of telephone health information service or telephone triage service in the last two years. Although the names differ – TeleCare, TeleTriage, Health InfoLine are some examples – the typical telephone service has many common elements. It allows the population to speak directly with a nurse (usually 24 hours a day) who indicates whether the caller should visit an emergency room, call 9-1-1 immediately or contact a physician. In some cases, the nurses may also offer instructions for self-treatment.

In Ontario, the "ON-Call Healthline" has been put in place to support the primary care reform pilots. The service enables patients to have after-hours and weekend access to primary health care advice by providing enrolled members with information to support them in making informed choices about their health and encourages continuity of care within the PCN.

The ON-Call Healthline is a computerized telecommunications service that utilizes clinical assessment and education protocols to evaluate the caller's symptoms and provide immediate and practical advice to help the caller choose the best course of action. Physicians are provided with a record of their patients' telephone interactions with the

service, where patients consent to this release. The service is staffed by registered nurses with specialized training. The ON-Call Healthline will provide Health Information Advice and Telephone Triage. The staff do not provide or offer diagnostic assessment.

12.4.1 Teletriage Requirements of the Global PCN Agreement

One aspect of evaluating this component of primary care reform is examining what conditions the PCNs are required to meet in terms of their legal agreement with the Ministry. The Global Agreement contains three terms relating to teletriage:

- *The PCN shall arrange a telephone health advisory service for Enrolled Members at all times other than the office hours referred to in the agreement.*
- *The telephone health advisory service will provide, in accordance with the standards set out in the Global Agreement, advice and referral information, including triage to self care, triage to a PCN Physician or an Affiliated Physician, access to an on-call PCN Physician or Affiliated Physician where appropriate, or visit to the hospital emergency room.*
- *The PCN shall not offer this service to anyone other than Enrolled Members, nor shall the PCN or any PCN Physician offer any other telephone health advisory service to their patients. The PCN and the PCN Physicians shall not charge anyone directly or indirectly, nor shall they accept payment on any person's behalf, for this service.*

Each of these terms is discussed below.

1. *The PCN shall arrange a telephone health advisory service for Enrolled Members at all times other than the office hours referred to in the agreement.*
   The original expectation was that each PCN would make individual arrangements for a teletriage service. However, with assistance from the OMA, a single provider and a common service have been implemented to serve all of the pilots. As of October 2001, 10 of the 13 active PCNs are able to offer a telephone health advisory service for enrolled members.

   McMaster, West Carleton and Parry Sound – the three newest PCNs – have not yet been able to offer this service. According to Medcan, the provider of the ON-Call Healthline, the new PCNs are not parties to the telephone health advisory service agreement and are therefore not eligible to utilize the service. Also, since actual call volumes have substantially exceeded projections Medcan is unwilling to expand the service to new PCNs without assurances that additional resources will be provided to meet the increased demand. Without additional resources, Medcan is concerned that there will be delays in answering calls. This means that callers will experience a reduced level of service (and reduced satisfaction) and Medcan may be unable to meet the call response time requirements set out in its contract. However, patients of these PCNs who call the ON-Call Healthline are not turned away. An interim agreement has recently been reached that will allow the three newest PCNs to use the teletriage service.

Another aspect of this term of the agreement is the apparent expectation that the telephone health advisory service would be available whenever the office is closed. However, while office hours are not uniform throughout the pilots, the hours of operation that have been negotiated for the ON-Call Healthline are uniform. The ON-Call Healthline provides service from 5 p.m. to 9 a.m. on weekdays and 24 hours on weekends. Many physician offices close early (i.e. before 5 p.m.) on Wednesday afternoons and/or Friday afternoons. Many physicians use this time to cover their other obligations such as hospital rounds, long-term care facility visits, home visits and catching up on paper work. Some physicians have made other arrangements to cover these closures because the ON-Call Healthline is not available to patients when physician offices close before 5 p.m. on weekdays.

2. *The telephone health advisory service will provide, in accordance with the standards set out in the Global Agreement, advice and referral information, including triage to self care, triage to a PCN Physician or an Affiliated Physician, access to an on-call PCN Physician or Affiliated Physician where appropriate, or visit to the hospital emergency room.*

   For the 10 PCNs that participate in the ON-Call Healthline, these services are available. Standards and protocols are in place for the ON-Call Healthline. The Healthline provides general health information, information about health services, and triage to self-care and various health resources. Statistics related to the volumes for each of these functions are provided later in this section.

   Chatham PCN does not support the option of directing patients to call their physician after hours because this was not the practice in the past. This PCN would prefer to have the teletriage nurse contact the physician if required. As a result, the Chatham physicians are not promoting teletriage to their patients and this partially accounts for the low utilization by this community.

3. *The PCN shall not offer this service to anyone other than Enrolled Members, nor shall the PCN or any PCN Physician offer any other telephone health advisory service to their patients. The PCN and the PCN Physicians shall not charge anyone directly or indirectly, nor shall they accept payment on any person's behalf, for this service.*

   No information has been collected to suggest that physicians are offering the teletriage service to anyone other than Enrolled Members, nor are they charging for the service. However, because many physicians have posted flyers about the service in their offices and recorded the ON-Call Healthline telephone number on their answering machine, it is possible that non-enrolled patients will also receive information about the service. Between September 2000 and May 2001, the ON-Call Healthline received 652 calls from individuals classified as "other" because they were not identified with a PCN.

Written materials in the physician's office and messages on their answering machines are currently the only means of letting enrolled patients know about the service because a planned patient mail-out has not yet occurred. Medcan reports that there are plans in place to mail promotional materials about the teletriage service to the home of each enrolled patient but the mail-out has been delayed due to concerns about the impact that such a promotion would have on already high call volumes. This is a major source of frustration for many physicians in the pilot.

As noted earlier, with the assistance of the OMA, all the pilots have access to the telephone health advisory service. There is no evidence that PCNs or individual physicians are offering any other telephone health advisory service. However, with the introduction of the provincial Telehealth Ontario line, the *Ministry* is now in fact offering another telephone health advisory service to enrolled patients. Telehealth Ontario is currently available in all areas of the province except area codes 613 and 519. Where both services exist in the same community, some physicians report that their patients are confused about which service to use or which service they have called. Another concern is that the Telehealth line may advise patients to visit a walk-in clinic which results in negation for the PCN physician. Parry Sound PCN faces a unique challenge because Telehealth Ontario was piloted in the 705 area code for three years. Parry Sound residents are used to using this service so it will be a challenge to facilitate their transition to the PCR teletriage service, particularly since the Telehealth service is available 24 hours a day and the ON-Call Healthline is not.

12.5 Impact of Teletriage on PCR Goals

The discussion above examined whether the telephone health advisory service is operating as intended based on the PCN legal agreement. The remainder of this section explores what impact the telephone health advisory service has had on access, quality and continuity of care, satisfaction and cost-effectiveness.

12.5.1 Impact of the ON-Call Healthline on Access

Overall, many physicians reported that the teletriage service has improved access for enrolled patients. The degree to which patients are accessing the teletriage service is illustrated by the utilization statistics summarized below. These statistics provide information on how many calls are received, when calls are received and the reasons why patients are calling the service. The source of these statistics is the "ON-Call Healthline Monthly Summary Report, May 2001", prepared by Medcan Health Management, Inc. The statistics are for the eight month period from September 30, 2000 to May 31, 2001.

ON-Call Healthline Caller Statistics (September 30, 2000 to May 31, 2001)	
Total number of calls received	15,624 calls Call volumes have increased steadily each month since the service was introduced
Number of calls per day	Average = 46 calls per day Range is from 30 calls per day on

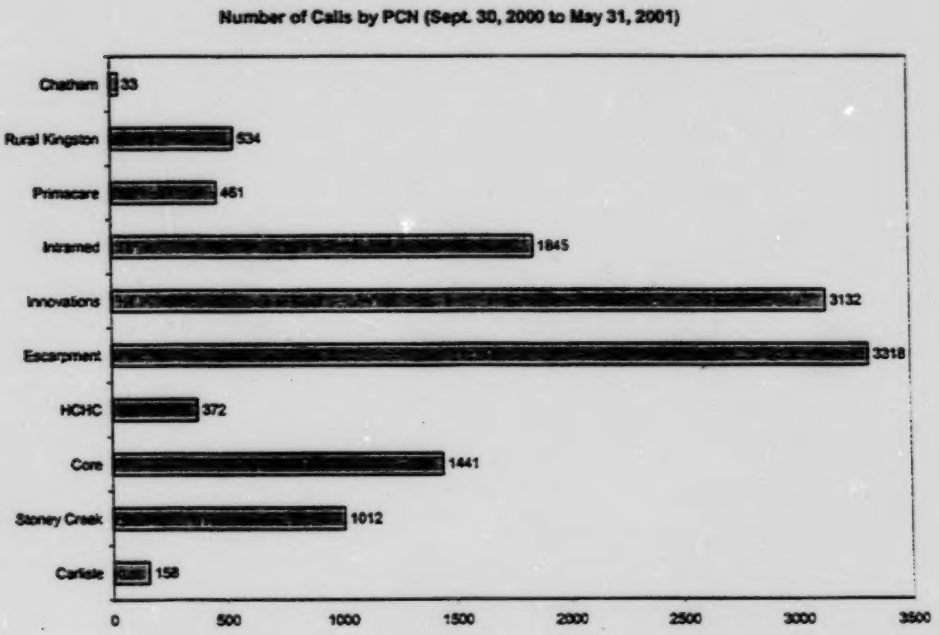
ON-Call Healthline Caller Statistics (September 30, 2000 to May 31, 2001)	
	Thursdays to 82 calls per day on Saturdays
Peak days	Weekends
Peak times	5 p.m. to 8 p.m. on weekdays and 8 a.m. to 11 a.m. on weekends
Number of "symptomatic calls"[51]	11,156 calls
Number of calls for general health information	455 calls
Number of calls for specific information on the availability, location and/or hours of operation of a physician or other resource	889 calls

Patients are calling the ON-Call Healthline for a variety of health concerns. The reasons why patients call the service are reflected in the types of algorithms that the nurses use to deal with the calls. For the month of May 2001, the top 10 algorithms used were:

1. pediatric upper respiratory illness
2. pediatric vomiting
3. adult abdominal pain
4. adult sore throat
5. pediatric eye problems
6. pediatric skin rash
7. pediatric ear pain
8. adult upper respiratory illness
9. gynaecological general dysuria
10. pediatric sore throat

[51] Symptomatic Calls are calls in which the caller, or another person, is currently experiencing symptoms and for which the nurse will provide health assessment and advice

The graph below indicates that utilization of the ON-Call Healthline varies across the PCNs.



The variation in call volumes is in part due to variations in the size of the PCNs but other factors also play a role.

For example, Carlisle is a small, semi-rural community. Most of the doctors in this PCN have lived in the community for a long time. Over the years, patients have become used to calling their family physicians when they have a health concern after-hours. The family physicians have enjoyed providing this level of service. According to the Carlisle PCN, patients view the ON-Call Healthline as a barrier between them and their physician that did not exist previously. It appears that many of the patients in Carlisle have chosen to bypass the ON-Call Healthline and call their family physician directly. The physicians seem to prefer this. A very similar situation exists in Rural Kingston.

The very low utilization in Chatham-Kent is reportedly due to medico-legal and billing issues that were reported in the Phase 1 Report and remain unresolved.

12.5.2. Impact of the ON-Call Healthline on Quality and Continuity of Care

An important feature of the telephone health advisory service is the link between the service and the family physician. This feature appears to be contributing to improved continuity of care. With the caller's consent, a record of the call is faxed to the caller's family physician so that they know why their patient called and the nature of the advice

that they received. Most of the physicians interviewed indicated that they read the encounter report and then file it in the patient's chart. Some physicians will follow-up with patients under certain circumstances based on the information in the encounter report. In interviews with family physicians, most indicated that they find this linkage very useful. However, it was noted that improvements to the format and content of the encounter report would improve its usefulness. Based on feedback from physicians, the encounter report is being revised.

According to Medcan, there is anecdotal evidence to suggest that patients also appreciate the physician linkage.

The impact of the teletriage service on quality of care is more difficult to assess. Based on the information collected during interviews, physicians appear to be comfortable with the type of advice conveyed to their patients by the ON-Call Healthline. Many noted that the teletriage nurses "err on the side of caution". This is in fact consistent with the advice of the Canadian Nurses Association (CNA) which is that "in general, nurses employed in telehealth should...always err on the side of caution, employing clinical judgment to determine the appropriateness of a care plan, implementation and follow-up."[52]

Very few examples were shared where the teletriage advice compromised quality of care. Medcan has a Medical Advisor who is available to respond to any clinical concerns that the physicians may have about the service. Medcan also tracks and reports on "noteworthy calls" which they define as "calls in which the ON-Call Healthline nurse made a significant positive impact on the health and well-being of a caller, often through intervention that goes beyond triaging the caller's symptoms". Anonymous examples of noteworthy calls are included in Medcan reports.

12.5.3 Impact of the ON-Call Healthline on Patient and Provider Satisfaction

As reported in the Phase 1 Report, there continue to be mixed reactions to the teletriage service, however, based on interviews, there appears to be a trend towards increased satisfaction in many PCNs. Many of the physicians interviewed were pleased with the service and reported that the number of calls they receive after hours has decreased.

A number of physicians stated that they had viewed the teletriage service as one of the "perks" of enrolment. For this reason, physicians in the newer PCNs that do not yet have access to the ON-Call Healthline are anxious to have the service begin because it is one of the important benefits that they promised their enrolled patients. Similarly, some physicians expressed concern about the introduction of Telehealth Ontario which gives everyone access to telephone advice.

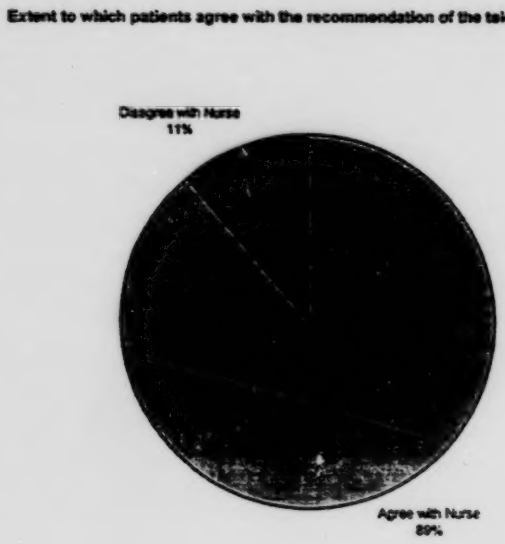
Physicians were also asked to comment on the feedback they have received from their patients about the ON-Call Healthline. Overall, many physicians felt that their patients

[52] "Telehealth: Great potential or risky terrain?" Nursing Now, November 2000 page 3.

were satisfied with the teletriage service. The areas of concern reported most often were the length of time required for patients to answer all of the questions in the clinical protocols, occasional advice that the physician does not support, lack of awareness of the number to call and lack of understanding of the specific local health resources available. Some physicians have suggested that patient satisfaction would be improved if the ON-Call Healthline were easier to access through automation. For example:

> One physician in the ***Chatham PCN*** has taken the initiative to implement a system whereby after calling his office, a patient can simply "press 1 to speak to a teletriage nurse" instead of having to hang up and dial the 1-800 telephone number. (Other physicians have tried to do this but were unsuccessful.)

Another potential indicator of patient satisfaction is the extent to which callers agree with the advice they receive. At the end of each call, the teletriage nurse asks the caller, "Do you agree with the nurse's recommendation?" The graph below indicates that the vast majority of callers report that they agree with the nurse's recommendation. However, an important limitation of this data is that the data only relates to people who have called the service. Patients who have not called the service because they are unaware of it, they prefer to call their doctor or to go to an emergency department or walk-in clinic are not included in these statistics.

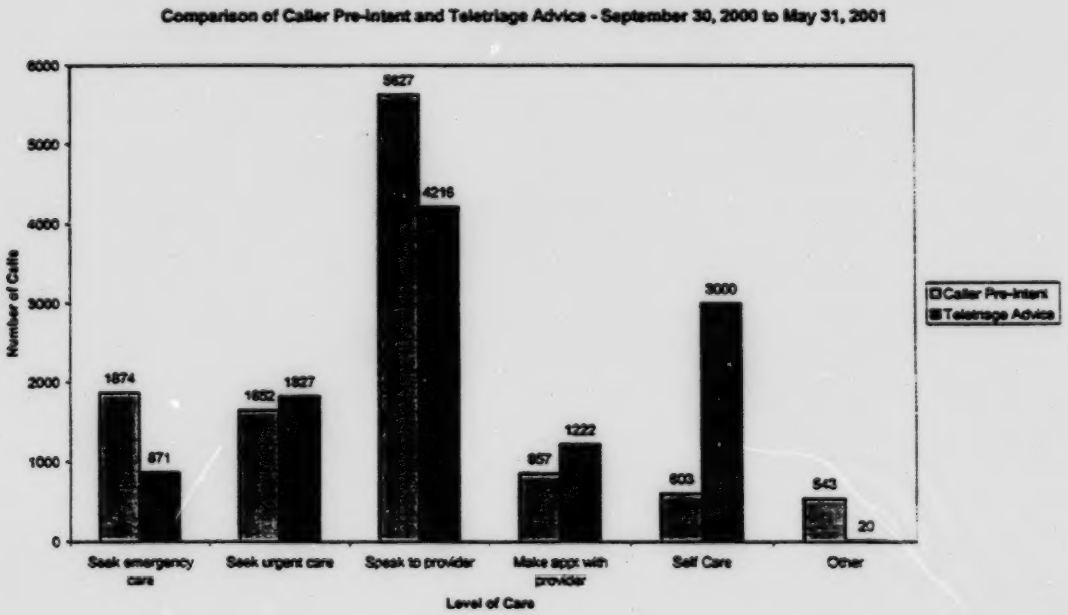

Extent to which patients agree with the recommendation of the teletriage nurse
Disagree with Nurse
11%
Agree with Nurse
89%

12.5.4 Impact of the ON-Call Healthline on Cost-Effectiveness

Since telehealth programs are relatively new, there is a great deal of interest on the part of policy makers in the cost-effectiveness of these programs. To address this question, a comparison of caller pre-intent and teletriage advice is important because it informs the discussion of whether the teletriage service has contributed to more appropriate use of the health system.

The graph below illustrates that often the service has redirected callers to different care options than they would have otherwise sought. The majority of callers (72% for the period September 2000 to May 2001) had a different pre-intent than the advice they received from the teletriage nurse. By comparison, data from England's "NHS Direct" indicate "80% of callers were advised to do something that was different from their original intention."[53]

Unfortunately, data are not available on whether or not callers actually followed the advice of the teletriage nurse. However, as noted above, 89% of callers said that they agreed with the advice provided by the nurse. In interviews, physicians also indicate that patients are generally compliant with the teletriage advice that they receive.



[53] "Health Nurse advice line extended", BBC News, February 2, 1999.

It is evident that the ON-Call Healthline is promoting self-care. Self-care was recommended for 3,000 callers and 88% of these callers agreed with the nurse's recommendation.

Teletriage and Emergency Room Utilization

There is particular interest in whether a teletriage service can reduce *inappropriate* visits to hospital emergency departments. The graph above shows that 1,874 callers had intended to seek emergency care. Only 200 (11%) of the callers with intent to seek emergency care were actually advised by the nurse to seek emergency care. The remaining 1,674 callers were directed to other levels of care, including self-care.

It is important to note that advising callers about the appropriate level of care sometimes means directing them to a higher level of care than they intended. For example, 671 callers who did not intend to seek emergency care were advised to do so by the nurse.

Overall, the teletriage service appears to have had a positive impact on emergency room utilization. The data suggest that in the absence of the teletriage service, the callers would have made 1,874 visits to hospital emergency rooms. However, the teletriage service advised only 871 callers to seek emergency care – a difference of 1,003 visits.

These 871 callers represent 6% of all callers. By comparison, Telehealth Ontario reports that 13 % of its callers were advised to seek emergency care.[54]

The potential for a teletriage program to reduce emergency room visits has been reported in other jurisdictions. The Phase 1 report included a review of teletriage evaluations in other provinces. All of the studies summarized indicate that telephone care has an effect on the likelihood of visiting the emergency room.

- In British Columbia, 30% of callers initially felt they should visit an emergency room. After speaking to a nurse on the telephone only 13% still felt this way. The number who felt that a GP was an appropriate source of care increased. However, the fact that the pilot study also involved the distribution of a self-care book and a health newsletter, makes it difficult to separate the unique effect of the telephone service.
- In Quebec, 60% of callers reported that calling the number "saved them a trip". However, it is not clear whether this refers to emergency room visits or other trips. The evaluation also estimated that there were 700,000 fewer emergency department visits per year because of service.
- A New Brunswick study found mixed results. For some non-urgent conditions (cold and flu symptoms, abrasions/scratches, back pain, neck pain, ear infection, post-operative complications) using the TeleCare service resulted in fewer emergency

[54] "Hello, nurse?' Medical advice a phone call away --- $45 million service helps to ease pressure on emergency rooms", by Prithi Yelaja, The Toronto Star, October 6, 2001.

room visits. For others (unspecified chest condition, unspecified abdominal conditions, gastro-enteritis, sprains, suture removal) using the TeleCare service resulted in a higher number of emergency room visits. For all conditions combined (those mentioned above plus additional conditions) using the TeleCare service had no effect on the number of non-urgent emergency room visits.[55]

Looking farther a field to the U.S., the "NurseCall 24" program was implemented by the Georgia State Merit System in 1997. A rigorous, multi-year evaluation was conducted which concluded that the NurseCall 24 program was associated with a reduction of 14.2 emergency visits per 1,000 people per year.[56]

On a cautionary note, it is important that expectations be managed around the impact that teletriage programs can have on emergency room utilization for the following reasons:

- Sometimes it is appropriate for callers to be advised to visit the emergency department even if it was not their pre-intent.
- In some communities (particularly rural areas and areas with physician shortages), the emergency room may be the most appropriate option for after-hours care if the family physicians are also providing emergency room coverage.
- A recent study on heavy users of emergency room services in Ontario reported that lack of access to primary care was not found to be a major cause of heavy emergency department use, in contrast to the US experience.[57] The authors of this study suggest that a multidisciplinary approach involving community providers is required to reduce emergency department use by heavy users. They recommend that the goal should be to try to meet the complex needs of these users rather than simply to reduce utilization.

12.6 Comparison with Other Jurisdictions

Relatively speaking, Ontario is a late entrant in the teletriage arena. Several other provinces provided leadership in developing telephone advice lines including British Columbia, Alberta, Quebec, New Brunswick and Nova Scotia. Some of these provincial programs have already been evaluated.

Teletriage has also been in place in Europe for many years. In early 1999, England announced its plan to accelerate expansion of its NHS Direct service to cover the entire country. Other jurisdictions have also linked the implementation of telephone advice lines to more comprehensive strategies aimed at reducing inappropriate use of emergency

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[55] One major difference between the New Brunswick study and the BC and Quebec studies was the methods used. The New Brunswick study relied heavily on regression analysis of administrative data while the BC and Quebec studies relied primarily on consumer survey instruments. This may be one possible explanation of the differences in results.

[56] Ozminkowski, Ronald, Wang, Sara and Ling, Davina. "A Return on Investment Analysis of the NurseCall 24 Program", December 1999.

[57] Ovens, Howard and Chan, Benjamin. "Heavy users of emergency services: a population-based review", Canadian Medical Association Journal, October 16, 2001; 165 (8), page 1049.

services. For example, programs in Idaho and B.C. included distribution of self-care handbooks to households. In Georgia, an emergency room co-payment was also introduced. In Alberta, an evaluation of the usefulness of telehealth in providing primary health care services in remote communities found that "telehealth cannot be 'layered on' an existing health care system without first carefully planning how telehealth service delivery will be integrated with other more traditional forms of delivery."[58]

12.7 Summary

In summary, almost all PCNs are providing extended hours in accordance with the Global Agreement. One exception is the new Parry Sound PCN which has a model in place that is responsive to the particular needs of its rural community particularly the shortage of physicians and the priority need to provide emergency room coverage.

Most PCNs have also introduced, or continued with, their own unique arrangements for coverage of physician absences. Many physicians report that this is an important benefit of being part of a group.

The telephone health advisory service is operational in only 10 of the 13 PCNs. A strategy has recently been put in place to bring the three newest PCNs on board as soon as possible. This will hopefully serve as a guide for bringing other new PCNs on board quickly during the provincial roll-out of the Family Health Networks. Unfortunately, delays in introducing the teletriage service in the new PCNs have raised serious doubts in the minds of some enrollees about the credibility of the PCN model.

Over 15,000 calls were received by the telephone health advisory service in the first eight months of operation. In addition to the symptomatic calls that require triaging, there have also been hundreds of calls for general health information and information about local health resources. There is evidence that self-care is being promoted and is achieving a high degree of acceptance by callers.

But some communities, particularly rural/semi-rural areas (e.g. Carlisle, Kingston) have experienced relatively low utilization. In rural areas, such as these where patients are used to having direct access to their own physician at all times, the teletriage service is perceived as a barrier rather than a value-added service. These areas might benefit from targeted educational efforts that address their unique issues.

Overall, in most PCNs, the telephone health advisory service appears to have had a positive impact on access, quality and continuity of care, patient and provider satisfaction and cost-effectiveness. However, areas for further improvement have also been identified.

[58] "Advancing Primary Health Care in Alberta: Sharing the learning", p15.

13. Patient Intake, Assessment and Treatment

Under the terms of the PCN agreement, the PCN shall ensure the provision of the following basket of services:

- Health assessment
- Diagnosis and treatment
- Primary reproductive care
- Primary palliative care
- Primary mental health care
- Access to obstetrical care and newborn care
- Service co-ordination, where possible
- Episodic care
- Access to hospital care and co-ordination where possible
- Patient education and preventive health care
- Appropriate periodic health assessments
- After hour telephone response, triage and access to a PCN Physician or an Affiliated Physician where appropriate

Many physicians have commented that, for the most part, they do not think that patients have noticed any changes in the delivery of care. The physicians themselves, however, do report subtle differences. With the use of other health care providers such as nurse practitioners, some are doing increased health promotion and patient education activities such as flu clinics and osteoporosis seminars. With the use of new IT systems, some are using templates for common disease groups. With the flexibility of a new payment mechanism such as capitation, some physicians report that they are changing practices such as the number of times patients have to come into the office for routine follow-up and making greater use of the telephone for routine monitoring or medication renewals. The use of IT, other health care providers and the new payment mechanisms and their impact on patient care is described in further detail in other sections of this report.

14. Health Promotion and Prevention

It was anticipated that health promotion and prevention would be part of the basket of services that should be offered by the networks. The following section outlines the role of staff resources, information technology, continuing medical education and financial incentives in health promotion and prevention activities.

14.1 Primary Care Providers

In some networks, the presence of other health care providers such as nurse practitioners, nurses, dieticians and social workers has facilitated health promotion activities. They participate in flu clinics, immunization clinics, osteoporosis clinics, smoking cessation programs and diabetes, sex and cholesterol education. Some of these activities are conducted by health care providers other than physicians, while other activities are conducted by the physicians themselves. Some health promotion is conducted on an individual basis and some in a group setting. For the most part, group sessions tend to be offered in PCNs that have other health care providers who can lead or organize such groups. Physicians tend to focus on health promotion and patient education at the individual patient level.

14.2 Information Technology

IT has to a varying extent facilitated health promotion and prevention activities. Some physicians indicated that they have been able to use their IT system to generate lists of patients who require various preventative measures such as pap smears, flu shots etc.

> *I used to always miss the 15 year booster shot. Now I use this to catch them all. (PCN physician)*

Some physicians can generate lists of patients with certain disease groups to assess their disease management requirements. For example, physicians can create a list of their hypertensive patients to check their urine results, or a list of their diabetic patients to check their glucose levels. Other physicians have been unable to do so. As discussed earlier, this likely does not reflect IT system capabilities, but rather lack of training.

Some practices print out educational materials from their IT systems and the Internet to provide to patients. Physicians see this as a benefit because it is quick and it reduces the need for storage of health promotional brochures.

14.3 Continuing Medical Education

One of the bonus codes introduced in the PCNs was a continuing medical education code. The "Continuing Medical Education Fee" is an hourly fee that is available to network physicians when they attend specific educational opportunities (approved by an external

advisory committee) up to an annual maximum. One physician reported that CME is the key to health promotion and prevention. Physician education is important for keeping up to date on the latest medical developments, drugs and new diagnostic treatment techniques. The extent to which PCR provides financial compensation to reimburse for time spent in CME activities can potentially enhance health promotion activities.

14.4 Financial Incentives

In the Canadian Medical Association's 2000 Physician Resource Questionnaire [59], 47% of physicians reported lack of time as a barrier to health promotion counselling. Twenty-five percent reported the lack of a fee code for counselling as a barrier. Elements of the payment model such as capitation and bonus codes may address these barriers.

14.4.1 Payment Model

The capitation payment model may support health promotion and prevention activities because physicians may have more time to spend with patients to conduct such activities.

14.4.2 Bonus Codes

Under both the capitated and reformed-fee-for-service model, bonus codes were introduced to encourage health promotion and prevention activities. The PCNs are allowed to bill two new fee codes: the preventive care management fee and the preventive care bonus code:

Preventive Care Management Fee
A fee code has been developed to allow physicians to bill for administrative time related to encouraging patients to get preventive interventions. This fee is payable in the amount of $6.86 per patient for identifying and recalling patients for specific preventative care. The fee is payable specifically for:

- Contacting female patients at risk for breast cancer between 50 years and 70 years of age for mammography once every two years
- Contacting female patients 35 years of age to 70 years of age who are at risk for cervical cancer for screening every two years (normal previous Pap Smear)
- Contacting patients over 65 for immunization against influenza annually
- Contacting the parent or guardian of all children who have not received the recommended immunization for children who are 18 months of age by two years of age

In order to be eligible for this fee, the physician must contact the patient three times (twice by mail and once by phone). [60] The letters must indicate the test or immunization that is to be done and the date that the last test or immunization was given. Each letter must contain specific information such as information on the material risks and benefits

[59] http://www.cma.ca/cmaj/vol-163/issue-5/prq/index.htm
[60] For the flu shot for seniors only two contacts are required (one each by mail and phone).

of the test or immunization, and the date of the last test or immunization. Letters must be sent out at specified intervals. After two letters without a response, a telephone call must be made to the patient.

Detailed records must be kept in the patient chart of all correspondence and telephone conversations with the patient. The requirements for billing this code are considered complete when the patient has had the test or immunization provided, or declined verbally or in writing, or all three components of the system have been completed without success.

Certain patients are excluded from this program (for example if they have had a hysterectomy).

The preventive care management fee is intended to cover the provision of premises, equipment, supplies and personnel required to screen a patient roster for eligibility of notification, recall and follow-up of patients. The fee includes the cost of printing, supplies, stamps, telephone bills, pamphlets, documentation, including a log of letters and telephone calls and any other tools or staff expenses that are used.

Preventive Care Bonus Fee

This fee is a bonus payment for physicians who are able to achieve increased compliance of their patient population with certain target preventive care procedures. Only one of the target level fees can be claimed in one fiscal year, for each program. The following chart outlines the different targeted preventive procedures and their corresponding payments.

Procedure	Description	Target level and corresponding compensation	Additional Information
Influenza vaccine	Available on an annual basis Calculated on December 31st of each year, on the percentage of rostered patients 65 and over who have received the flu vaccine for that year.	60% = $220 % = $440 70% = $770 75% = $1100 80% = $2200	
Pap smear	Available on an annual basis. Calculated on the basis of the percentage of eligible women between 35 and 70 who have had a Pap smear in the previous two years.	60% = $220 65% = $440 70% = $660 75% = $1320 80% = $2200	The Ontario target is 80%.
Mammography	Available on an annual basis. Calculated on the basis of the percentage of eligible women between 50 and 70 who have had a mammogram in the previous two years.	55% = $220 60% = $440 65% = $770 70% = $1320 75% = $2200	The Ontario Breast Screening Program target coverage is 70%.
Childhood Immunization	Available after a child reaches the age of 18 months and is paid for children who have received all of the recommended immunizations for that age by the age of 2 years. Available on an annual basis. Full	85% = $440 90% = $1100 95% = $2200	

Procedure	Description	Target level and corresponding compensation	Additional Information
	documentation has to be recorded, including what the vaccine is, its lot number, manufacturer, date, and route of administration.		

14.4.3 Fees Codes and Bonus Codes in Practice

Numerous concerns have been expressed about the bonus codes:

- Physicians report that too much paperwork is required to be eligible for the code. The actual dollar amount received, in their opinion, does not cover the cost of the administrative work required to be eligible for the preventive care management fee. For example, if one estimated that it would take an administrative staff member 45 minutes to pull a chart, make one phone call and type and mail two letters, the cost of meeting the requirements to bill this code may be approximately $8.44.[61] The preventive care management fee is payable in the amount of $6.86.

- Some physicians have expressed concern over the inability to efficiently track health promotion/prevention activities.

- IT capabilities vary in the PCNs. As nurse practitioners have no billing number (other than for outpatient testing), their health promotion/ prevention activities are largely unaccounted for. Many physicians are also unable to track their activities.

- Many physicians are in disagreement over the amount of compensation they have received from these bonus codes. Several physicians reported receiving a cheque of $440 indicating 85% compliance with childhood immunization even though they felt that all of their young patients are immunized.

14.5 Summary

An important element of primary care reform is encouragement for health care providers to do more health promotion and prevention. Methods for achieving this end include:

- Inclusion of new staff resources such as nurse practitioners to assist with health promotion activities
- New payment mechanisms such as capitation and bonus codes that encourage health promotion activities
- IT systems which have preventive alerts and can provide necessary data such as patients by disease group
- CME fee which encourages physicians to keep abreast of new medical developments

[61] Assumption of salary of $10.00 per hour for administrative staff plus 47 cents for postage for two letters.

While some problems, such as tracking health promotion activities and calculation of the bonus codes exist, for the most part, many of the above introduced measures have helped to encourage health promotion and prevention activities.

15. Linkages with Other Providers: Co-operation and Collaboration

15.1 Background

Two goals of primary care reform in Ontario are: improved access; and improved continuity and quality of care. Improved linkages with other health care providers and agencies are directly related to these goals, and are important elements of primary care reform. The extent to which PCNs have achieved increased external linkages and relationships is an indicator of their progress toward achieving the stated goals. Some of the specific objectives related to these goals are:

- Increased co-ordination of care
- Increased comprehensiveness of care
- Increased utilization and comprehensiveness of preventative care
- Enhanced involvement of non-physicians
- Clarified role of specialists
- Decline in avoidable hospital visits
- Decreased duplication of care

The Ministry explicitly encouraged the improvement of co-operation and co-ordination among those who deliver primary care services in its site information package:

> *Depending on the community and the resources available there can be many providers and organizations involved in the delivery of a broad range of primary care services to the same population. The co-ordination and cooperation between these providers is critical to ensuring high quality patient care.....*
>
> *In communities where there are other Ministry funded services, such as community mental health programs, assistance will be provided to explore the potential to enhance the co-ordination and integration of these services with the PCN.*
>
> *Additional opportunities may be possible depending upon the local circumstances. The PCN will be encouraged to propose creative and innovative solutions that can be accomplished within existing funding allocations.*
>
> *Sites are encouraged to explore opportunities to work with other primary care providers and to share a single physical location. Many providers have access to dedicated funding from the Ministry and have expressed enthusiastic interest in participating in the reform - including chiropractors, midwives and optometrists.*
>
> *Other providers without government funding are also interested in the potential to improve patient care and reduce duplication by working together and may also be interested in developing arrangements with the PCN physicians for sharing of*

space or establishing formal or informal linkages for patient care."(Primary Care Reform-Site Information Package, July 1998)

There are several benefits to having increased integration and co-ordination of health care. Firstly, increased integration and co-ordination would reduce the fragmentation in funding and service delivery that currently exists among hospitals, community-based care, family physicians and other provider groups. Also, from a comprehensiveness of care perspective, the relationship between the patient and the family doctor is critical to ensuring that the delivery of health services is co-ordinated in an effective and efficient way. An explicit objective of PCR is the enhanced involvement of the primary care physician as principle caregiver, and by virtue of this role, as the nexus of care.

However, there are a number of barriers to improved co-ordination of care. These include: poor communication among various health care providers; few incentives (financial or accountability) to improve co-operation and communication among care providers and other stakeholders; the current silo funding mechanisms; limited use of electronic medical records; and no electronic interface among providers.

The following table, borrowing from Rosser and Kasperski, illustrates how the patient/family physician relationship is potentially affected by the current system. It highlights areas where greater communication and collaboration is crucial to improving continuity and quality of care. The rest of this section explores the relationships with these other health care providers.

Accountability	Provider of Care	Affect on doctor/patient relationship
Family physician	Family practice	• FP/patient relationship maintained
Specialist	Specialist	• FP co-ordinates access • relationship with specialist often for only one medical condition • relationship with FP may be adversely affected as patient develops a relationship with specialist
On-call physician	Walk in clinic	• new relationship developed with every visit to different walk in doctor • FP/patient relationship adversely affected
Community Care Access Centre	CCAC Case Manager	• FP/patient relationship usually maintained, but approach to care not co-ordinated effectively between FP and community providers
Most responsible physician	Hospital	• FP may co-ordinate access to hospital, but may not be MRP • FP/patient relationship may be adversely affected as MRP is often a specialist • specialist may differ by

Accountability	Provider of Care	Affect on doctor/patient relationship
		hospitalization
Family physician institution	Long-term care institution	• FP/patient relationship adversely affected • approach to care not co-ordinated effectively between FP and providers in institution • FP/patient relationship often severed as patient turned over to institutional doctor.

Source: Rosser and Kasperski, Organising Primary Care for an Integrated System, Healthcare Papers, Vol. 1 No.1, Winter 1999 pp5-22

15.2 Overview of Linkages with Other Stakeholders

The extent and nature of linkages with other health services and providers vary greatly among the PCNs. However, on aggregate, there has been little change in terms of improved linkages with other providers outside the PCN. One doctor said that in order to achieve this goal there must be "a philosophical change in how things are done."

The expectation was that PCR would improve the ability of physicians to provide primary care services. One of the objectives of the new funding mechanism and delivery of care model was to decrease the incentive for family physicians to see all patients, and increase their role in co-ordinating their patients' care with other care providers where appropriate. The assumption was that they would be able to explore alternatives for providing care as a result of a different funding system, and be more creative with their time and other staff members. Improved external linkages were also critical to this care model.

In some PCNs, physicians were not aware whether or not the PCN has any formal linkages with outside providers; although, many pointed to informal linkages with particular types of providers, such as CCACs. Formal linkages with external providers appear more likely when ancillary support (e.g. laboratories, rehabilitation, specialists etc) are in the same building or in close proximity. One physician reported that "patients feel comfortable that they'll get a good level of care" because of the availability of these services on-site.

Many physicians lament the fact that there is no central repository for information about patient encounters outside the PCN, especially for the hospital-based and community-based care. This, many say, would greatly improve continuity of care because they would have access to and could follow-up on all their patients' encounter data.

Primary care physicians are also concerned about their patients' access to other parts of the health system. The National Physician Workforce Survey, a survey of 14,319 physicians released in October 2001, reported that more than two-thirds of doctors reported moderate to severe problems getting medical services for their patients, up from 53% in 1997. They report lack of access to psychiatrists, long-term-care beds, hospital

beds, orthopaedic services, home care services and obstetrician-gynecologists as the most concerning.

This section summarises the linkages that exist with other health service providers. To date, little has been accomplished in terms of building on these linkages, although there are some promising examples. The information provided below does not only relate to the situation for PCNs, but applies to the situation for many family physicians across the province. However, there were expectations by stakeholders, physicians and other care providers alike that PCR would help to facilitate improved integration and continuity of care in their region. Many report disappointment that little change has occurred. The following outlines some of the existing situations and some barriers to improved linkages.

15.3 Linkages with Specialists

The linkages between family physicians and specialists are important elements of continuity and comprehensiveness of patient care. Important components of these links are: easy access to specialists by GPs, good channels of communication, fast and easy flow of information and simplified referral mechanisms. While many GPs have good working relationships with specialists, a number of barriers to streamlined referral processes remain.

For specialist care, many family physicians have preferred specialists for specific specialities. Some indicate that they select the specialist according to the nature of the patient's complaint and sometimes the patient's personality. The bond or rapport appears to be stronger between family physicians and specialists in the same proximity, especially if they both have privileges in the same hospital. This highlights the importance of GPs having hospital privileges and having a role in the hospitals.

Often in rural areas (and less rural areas), when patients have to be referred out of town, the physician's office will call central booking at the referral hospital, and the hospital will determine the specialist and the appointment time. This approach tends to weaken the linkage and feedback between the physicians, and could have a negative impact on quality and continuity of care.

When the referral letter is prepared it is either faxed to the specialist's office or called in. Physicians report that often a lot of leg work is entailed in getting their patients appointments with specialists, and usually this is the responsibility of the clinic's administrative staff. As described in more detail in the hospital section, physicians and patients alike would benefit from greater ease of communication with specialists, and more streamlined referral systems.

One physician interviewed suggested that linkages with specialists and family physicians would improve if there were "a meeting of the minds between GPs and specialists regarding referrals." Greater co-operation with academic health centres and hospitals was also suggested in this regard. The interviewee recognised that additional resources may

be required to facilitate this, as in many cases, there are not sufficient incentives in place to change the status quo.

In northern rural areas, the physicians prefer to refer to the closest appropriate northern doctor, but in some instances the patient would not be entitled to the travel grant (generally they would be entitled to financial support for travel 100 km north or 200 km south). For example, there is no travel grant for travel from Parry Sound to Orillia or Barrie. The grant would only apply if the patient travels to Toronto. This situation may also impede the building of on-going relationships.

In many rural areas, specialists from other jurisdictions – such as urologists, ophthalmologists, paediatricians, orthopaedic surgeons, rheumatologists –visit the hospital on a regular basis. This, say the local family physicians, not only allows patients to be treated closer to home, but allows both the patients and physicians to develop better relationships with specialist physicians. A key need identified by the rural and northern family physicians was more specialist input and partnering. They also indicated that the specialists such as internists at their own local hospitals were harder to get a hold of for their advice because they are over-extended.

15.4 Linkages with Hospitals

As part of the evaluation, we interviewed PCN physicians, as well as several senior staff members at hospitals in the vicinity of the PCNs. The extent of linkages between the hospital and PCNs reportedly varies, and for the most part reflects pre-existing arrangements.

Some hospitals report good communication with the local PCN. But one hospital was unaware that there was a PCR pilot in the region. Another hospital administrator felt ill-informed about PCR. Many hospitals say that their relationship with PCN physicians is the same as with non-PCN GPs.

Generally, the type of relationship with the hospital depends on whether or not the family physician has privileges there and works there regularly. Where family physicians work frequently in the hospital, the relations between the hospital and the physician's practice tend to be greater. Many family physicians in the PCNs have hospital privileges, and regularly care for their own patients admitted to hospital and do rounds.

Some PCNs provide their after-hours care at the hospital. These include Stoney Creek at St. Josephs Community Care Centre, Innovations at Hamilton Health Sciences Centre, Parry Sound at West Parry Sound Health Centre, Primacare at the Urgent Care Centre at the Willet Hospital, and Chatham at the Family Practice Clinic at the Chatham-Kent Health Alliance. These hospitals have allocated resources (often in kind) to these after-hours centres, such as space, clerical staff and computers. A couple of hospitals have provided resources for other components of primary care, such as providing some administrative support, CME, printing and advertising. One PCN has negotiated an arrangement with the local hospital to consider the nurse practitioner as hospital staff –

the hospital handles her payroll and benefits. This was done to give the nurse practitioner access to a better group benefit plan compared to what the physician could have purchased for a single employee.

Many of the PCN family physicians in small towns also work in the hospital Emergency Room, surgery, obstetrics, or anesthesiology. In some cases, they are the only physicians who work in the local hospital or represent the majority of physicians on the hospital staff.

From one hospital's perspective, having the family physicians on-site brings primary care reform into the hospital, and has helped to avoid duplication of care and to improve continuity between primary and acute care. The hospital is often the place where the physicians meet on rounds and this facilitates "corridor linkages" and informal discussion. But, most of these linkages were in place prior to PCR, and few report that PCR has changed the level of collaboration.

There is room for improved working relationships. According to the Ontario Hospital Association, while hospital medical staff by-laws outline the general expectations of physicians who have hospital privileges, "a common understanding of the roles, responsibilities and obligations of physicians and hospitals does not exist.... Physicians should have a clear understanding of their obligations to patients and their responsibility to the hospitals where they have privileges."[62]

The family physicians who do not work – or work less frequently – at the hospital, feel out of the loop with regard to getting information about their patients in hospital, discharge information, hospital programs and services, etc. This has not changed with the advent of PCR.

Mainly in larger centres in Ontario, GPs are reported to have less of a role in the hospitals, and most doctors there are specialists. Both family physicians and the hospitals say that communication between them needs to be improved. They suggest that clear lines of communication for referrals and feedback are required, and processes streamlined and formalized. One hospital suggested that formal arrangements would have a positive impact on communication, and suggested that these agreements be put in place with the network as opposed to individual doctors. Thus, patients affiliated with a network could be identified and a consistent approach applied. For example, communication could be improved if hospitals were informed about the network's call schedule, and who to contact. An agreement with the network could also outline referral procedures. As well, a formal agreement, could facilitate better information exchange.

All physicians feel improved linkages with hospitals would improve co-ordination and continuity of care. Most feel that this would be augmented by improved correspondence, and that integrated IT systems are a critical component to improved communication.

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[62] Ontario Hospital Association, Physician Compensation Practices in Ontario, October 1999.

While some physicians have some electronic linkages to hospitals in their area, none of these linkages are attributable to PCR.

Several doctors said that coming into the PCN their main expectation was that their IT system would provide them with electronic links to the hospitals. This would have allowed them to get timely feedback related to all services that their patients receive at the hospital, and access their own and other network physicians' records while at the hospital. Many physicians reported lengthy delays in getting discharge summaries, emergency department reports and notification of patient deaths in hospital. For many, this has been one of the greatest disappointments of the reform.

Likewise, many of the hospitals interviewed had expected that the IT component of PCR would bring electronic linkages between hospital and PCNs that would allow for timely feedback to primary care physicians and for hospital physicians to have access to relevant information about patients.

Some hospitals had anticipated the implementation of integrated IT systems and considered strategies to facilitate it. Some hospitals met with the PCNs about this issue. Recognising the mutual benefit of IT, one hospital agreed to provide technical expertise for IT components; another anticipated some cost sharing. These hospitals believed that the smaller group could not afford to have the necessary IT support and expertise, and that they could bring some expertise in IT and play a significant role. One hospital administrator pointed out that for co-operation to occur in this regard, a high degree of trust and co-operation between the hospital and PCN is needed.

There has been little or no change in the way information is transferred between family physicians and hospitals. Most transfers – consultation, laboratory and discharge documents – are still paper based. These are usually mailed or faxed.

None of the expectations with regard to improved IT linkages with hospitals have been met so far. The slow progress is reported to have diminished excitement and enthusiasm about the reform, and confidence in the government and project.

Money and time have been identified as the largest barrier to improved linkages and co-operation between GPs and hospitals. Doctors are hesitant to invest their own money into community networks. They do not believe they are compensated to set up linkages or to follow patients while in hospital.

As well, some interviewed have said that there has to be funding from the MOHLTC for setting up IT connections between the PCNs and hospitals. The financial burden on doctors and hospitals to set up internal systems has been great. They say, without financial incentives, "IT links will take years" and "doctors and hospitals will focus on doing core business first."

There are also some legislative barriers to collaboration. For example, many physicians would like to involve nurse practitioners in their hospital-based practice. Some would like nurse practitioners to be able to see their patients in the hospital, prescribe medication and work in the ER along side physicians. However, the ability of nurse practitioners to perform these functions is limited by the constraints of the *Public Hospitals Act*. The *Public Hospitals Act* limits the independent scope of a nurse practitioner's practice and prevents her from functioning in this manner.

An important consideration is how to encourage and facilitate greater family physician participation in hospital issues. Some PCN physicians in urban areas are part of the Department of Family Medicine and take part in hospital planning. Some are members of various medical advisory committees. However, there are several opportunities for increased family physician input into hospital operations.

15.5 Linkages with Laboratories and Diagnostic Services

Most practices have a laboratory that they deal with on a regular basis, and several offices have a laboratory technician and collect samples onsite. For many PCNs, the first linkage with their new IT systems was with the laboratory, but only if they deal with the larger laboratories, such as MDS or Gamma Dynacare. Where physicians deal with hospital-based laboratories, for the most part, they can't get information sent to them electronically if they work off-site.

Where physicians deal with smaller community laboratories, the laboratories are understandably hesitant about investing in linkage technology unless warranted by the volume of activity. Most physicians use only one laboratory because the laboratories use different requisition forms.

15.6 Linkages with Home Care

Primary care reform seems to have encouraged greater communication with CCACs and home care providers. But, for the most part, this remains on a case by case basis. For capitated physicians, their remuneration now includes co-ordination of home care. And many RFFS physicians indicate that they appreciate and are taking advantage of the new home care supervision codes.

The extent and nature of the communication with the home care nurses seems to vary by individual physician and by location. Most physicians indicate that they provide their orders to home care by fax. Some physicians say they speak to home care nurses by phone on a regular basis.

However, truly integrated and streamlined co-ordination of care is rare. CCACs and PCN physicians speak on a professional level, but the CCACs had anticipated that PCR would bring more direct professional communication and greater integration of health care services. There are still only traditional linkages with physicians, and CCACs report few changes in practice patterns.

Some PCN physicians pointed out barriers to increased co-operation with CCACs. They report that in the past they had designated case managers and they "were part of one big family." However, they say with the CCACs this is not the case, and there is no guarantee of getting the same nurse each time. One physician said the communication with home care providers has broken down. It "used to be nurse would call from the home, but now requests are faxed to doctors." The problem he says is that "they have been set up as a separate empire." As the financing is not integrated, team building in home care is not facilitated. Often, says this doctor, it means managing without seeing the patient. These issues have hindered co-ordination of care.

From the CCAC perspective, a barrier to increased co-ordination is the fact that CCACs tend be organized on a geographic basis, which do not necessarily equate to the PCN's catchment area. This is particularly true in the larger areas such as Hamilton where the boundaries of many of the eight PCNs overlap. CCAC case managers and home care providers are organized around the address of the patient. This arrangement makes it difficult to designate a specific case manager for a particular PCN.

One PCN has a home care co-ordinator who meets with each doctor once a month to discuss patients. In another PCN, the nurse practitioner has integrated her role with the home care nurses and they regularly share information and co-ordinate scheduling. Other nurse practitioners have developed linkages with the CCACs.

15.7 Mental Health and Nutrition

The two areas that were consistently identified as requiring improved linkages outside the PCN were nutrition and mental health. In many instances, the physicians felt that there were insufficient linkages and care mechanisms for individuals requiring additional care in these areas. While many of the physicians said that they provide counselling and some indicated that they had adopted this as a sub-speciality, physicians are often concerned about the patient's access to appropriate care once they require care outside the physician's level of expertise.

Doctors have identified the need to know where the resources are and how to link people to them. There is a dearth of mental health and abuse services in many areas, and this often means waiting lists are long and services often are not available until there is a crisis.

Some PCNs, often those in the rural areas, report that they have good rapport with the publicly-funded mental health and nutrition services and that this has proven to be an excellent resource. However, the majority indicate that these services are few and difficult to access. In some areas where there are resource centres, the doctor gives the patient the telephone number for dieticians, psychologists, or social workers, and is expected to follow-up. Sometimes, the number of visits for mental health and nutrition counselling are limited at publicly-funded services. For at least three of the networks, these services are some distance away in a larger community.

For both mental health and nutrition services, one physician claimed that we "don't have enough of these professionals available and the funding mechanism is a barrier." With regard to mental health, while many physicians refer to psychiatrists, they believe that some patients would be better served by a psychologist. However, they can generally refer to a private provider only if the patient has private coverage or the ability to pay. As a result, where they may believe a referral to a psychologist is appropriate, they may refer to a psychiatrist. The same applies to dieticians. Patients are either referred to private dieticians or to the hospital where these services are available.

This creates an additional burden on the GP, because the psychiatrist often has longer waiting times and less time for on-going follow-up. This is especially a problem if the patient has to travel long distances for the referral. For example, in the Chatham area, there are three psychiatrists to 100,000 people.

The HSO Mental Health and Nutrition Program in Hamilton has been extremely successful. The program is available to some PCN physicians in Hamilton and is unique to Hamilton. This Ministry-funded program is an HSO program and many of the participating physicians are HSO physicians. Those current PCN physicians who were formerly HSO physicians and had ISP funding were permitted to retain the program funding when they joined the PCN and have access to the program. The fact that these services are only available to patients of former HSO physicians has raised questions about equity of access.

The program reports high patient satisfaction and improved patient access to mental health and nutrition counselling. Patients report that they like being seen by the mental health and nutrition professionals in the familiar setting of their family physician's office. The program is also said to have increased physicians' skills and comfort level in handling mental health problems and they appreciate the opportunity to discuss cases. Reported benefits include: improved continuity of care; improved access to care; greater patient and provider support; more case review; better communication and working relationship among providers; and better co-operation between primary and secondary sector.

The individuals working in the program contribute to creating even greater community linkages. For example, the dietician in one PCN liases with many other dieticians in the Hamilton area, sits on the Hamilton-Wentworth Nutrition Committee and attends community events. She also communicates regularly with the paediatrics department at Hamilton Health Sciences Centre. The information and knowledge gained from these linkages is shared with the PCN practice.

15.8 Linkages with other Health and Social Service Organizations

Many look to the local Public Health Unit, Social Services, and other community heath organizations to spearhead and provide preventative services and interventions in their community.

Many physicians fear that there are not enough of these services in the community to meet the need. One physician said that there were more services in the past, but that they are feeling the effects of the budget cuts, especially in social services, children's services, addictions and psychology. As well, in some areas, regular visits to the community from social service providers have been cut. Physicians report that it is much harder to get patients seen than in the past, and that the communication is poorer and there is more paperwork required. One doctor said that there is "a much more bureaucratic feel" to these organizations. Physicians point to the benefit of having a contact at these organizations. In larger areas, they say when "one calls an agency, you can't get the same person all the time." High turnover of staff in these organizations has also caused frustration. These changes, they say, have hindered the quality and co-ordination of patient care.

Some physicians feel that there are increased social problems with fewer social services and physicians available to serve them. Other doctors feel that the problem is the converse; there are fewer social services and physicians, and thus fewer resources available to avert and control social problems. The result has been that more situations develop into a crisis before any action can be taken. For the physicians (and the community), the potential impact is worse health outcomes, the requirement of more health services and resources, and an increased burden on their limited time. As well, some physicians feel that they are dealing with problems that, were they available, should be addressed by more specialised providers.

Presently, most of the patient interaction with these agencies is through self-referral. Often the physician will provide the telephone number. There is little follow-up or report back in these instances.

One program that has been identified as a useful and successful resource is the Healthy Babies, Healthy Children program. While some physicians are more proactive in their association with this program than others, those who have good communication and have developed a working relationship, feel that it presents an excellent opportunity to ensure at-risk mothers receive the necessary attention.

Some PCNs more than others, have reached out to these community-based organizations. PCNs with nurse practitioners or auxiliary staff funded by the MOHLTC are more likely to have made these contacts. The mental health counsellors in Hamilton frequently liaise with a variety of local resources, such as Children's Aid and social services.

However, in most cases the resolve of the PCN to forge these alliances has not been great enough. Predominantly, this is because the PCNs have been very busy with

implementation activities, and they are not in a position to contribute resources in these areas. Thus, with no accountability or direct responsibility, it is difficult for them to develop stronger ties or to participate in planning. According to one doctor, referring mainly to the contribution of a nurse practitioner, " I don't want to pay for the public health concerns of the community, but I am willing to share this expense."

Some take advantage of the services provided by the Public Health Unit. In one instance the Public Health Unit was said to have been very enthusiastic to develop linkages and programs, but as the PCN had no resources to offer the relationship waned.

The Sharbot Lake practice in the Kingston PCN is a good example of greater integration with other health and social service organizations. Being a demonstration site for a multi-service centre has contributed to this. They have local services for: social work, addictions and mental health.

Additionally the Victorian Order of Nurses (VON) has offices in the same office building as the physicians which allows for both formal and informal interaction regarding a patient. As well, because it is a small community it is easier to interact with people they know in community.

The family physician meets once a month with the local community agencies. This meeting usually does not focus on individual case-solving, although it has. They meet primarily to update each other about their respective services. In this case, these groups are really considered to be part of the local team. According to the local family physician, this really improves the quality and continuity of care.

15.9 District Health Councils

One of the roles of District Health Councils (DHCs) is planning, monitoring and evaluating access to and continuity of care in the community. Many DHCs have been extensively involved in dialogue about primary care reform and had expected that they would have the opportunity to provide input to the PCNs in their jurisdiction, and develop partnerships as required. They felt that their role was to communicate with networks collectively, and share relevant advice, information and learnings.

To date there are minimal linkages and no formal lines of communication between the DHCs and PCNs. Like most health service providers, PCNs do not share information or provide feedback to DHCs on a regular basis, rather, information is provided when solicited and DHCs have been briefed on occasion. DHCs believe that there are several opportunities to improve linkages with PCNs. Through co-operation DHCs could provide input on planning and provide PCN physicians with relevant information about health in their community. Some DHCs would like to have PCN representation on their planning committees.

One example of health care provider linkages with the DHC is in Hamilton. ***The Primary Care Council in Hamilton*** is a voluntary group which meets for information sharing and planning. For example, the committee has prepared a response to HSRC directives and discussed the introduction of telehealth. Although this is not a DHC committee, the DHC has provided some resources. The formation of the committee was not related to the PCNs, and its members are interdisciplinary and include representatives from public health, the Department of Family Medicine, McMaster University, Family Medicine Hamilton-Wentworth, a nurse practitioner, OT/PT, and a city councilor. Family Medicine Hamilton-Wentworth provided a co-ordination function for PCNs, and subsequently made a link between the PCC and the PCNs.

Barriers to collaboration and co-operation between the PCN and DHCs are said to be both professional and structural. Primary care physicians have not traditionally had a dedicated forum for dialogue with local planners, nor have the network structures incorporated any local information sharing and planning mechanisms. Traditionally, DHCs have not been involved in the planning of physician services.

15.10 Other Models

CHCs and other primary care delivery models in Ontario provide important lessons for improved integration with other health care providers in the community. They have developed links with health professionals and outside organizations, and promoted community participation.

These models provide for information sharing with community partners at all levels. As well, some have joint initiatives that are contractual, including service agreements with individual health providers and the local hospitals – including formal referral protocols. Approaches to conflict resolution are often written into these agreements. They also report partnerships with non-health care providers, such as the local police and schools.

The CHC in Ottawa reports that every program area – medical, addiction, community development. etc. – has extensive partnerships in place. They report 75 to 100 partnerships in total.

One PCN physician who was formerly associated with a CHC said that the inter-disciplinary care model provided greater co-ordination of care, and was more responsive to the community's needs. These models also better facilitate case conferencing and health promotion.

15.11 Summary

On aggregate, there has been little change in terms of improved linkages with providers outside the PCN. Clearly, the objectives of PCR in this regard have not been achieved. One factor may be timing. PCNs have been very busy with start-up activities and perhaps it is too soon to observe evidence of increased linkages. One physician felt that this was because "networks need to be functioning well before establishing formal linkages with others." However, further progress toward reaching the goals of increased integration and co-ordination of health care would help to ensure that the delivery of health services are co-ordinated in a more effective and efficient way.

While most physicians indicated that they would like greater access and links with outside services, some are unaware of any formal links that may exist; and others are continuing to work based on pre-established informal linkages.

There are examples of additional linkages being formed with hospitals (e.g. after-hours clinics). It is also clear, that in a multidisciplinary team model, responsibility for establishing linkages need not rest solely with the physician. In PCNs that have nurse practitioners, mental health counsellors and/or dieticians, these staff have been very active in establishing community linkages.

A number of barriers to improved co-ordination of care remain. There are few incentives (financial, contractual or accountability) to increase communication and co-operation with other providers. Additionally, improved information technology throughout the health care system would greatly facilitate improved integration. Finally, gaps in service availability limit the ability of PCNs to improve continuity and co-ordination of care. These gaps are faced by many providers and have been documented in other reports.

16. The Patient Experience

16.1 Introduction

This section presents the results of a *preliminary* data analysis of the survey of PCN patients.

As of October 22, 2001, 869 PCN patients had completed the survey. The table below indicates the number of survey respondents by PCN at that time. This provides a representative sample of patients rostered to PCNs in Ontario, but not a representative sample for each PCN site. The total projected response rate for the PCN patient survey is 1,700. However, recruitment delays at the PCN offices have hindered the achievement of this goal. There are a total of 350 required from each of Kingston, Paris and Chatham, and 650 in Hamilton.

Patients from Parry Sound and West Carleton were not included because these are still new PCNs.

Number of respondents by site and network

PCN	Number of Respondents	Percentage
Hamilton	570	65.7%
Hamilton – Innovations	164	18.9%
Hamilton - Carlisle	136	15.7%
Hamilton - Escarpment	106	12.2%
Hamilton - Core	100	11.5%
Hamilton - McMaster	34	3.9%
Hamilton - Intramed	20	2.3%
Hamilton - Community Health Centre	10	1.2%
Paris	188	21.6%
Rural Kingston	86	9.9%
Chatham	25	2.9%
Total	**869**	**100%**

Selected focus group results are also included.

16.2 Overview of Methodology

16.2.1 Recruitment and response rates

Patients rostered to the PCNs were recruited at the primary care offices in August through October 2001. Interviews were conducted by telephone. As of October 22, 2001, 869 telephone interviews had been completed. A total of 1,243 eligible telephone numbers were contacted; 11.5% refused, 10.5% were answering machines or busy and 5.3% were scheduled as call-backs.

Since patient recruitment was conducted in the physician offices, the survey responses represent those of patients who have accessed health services at the PCN over the past few months. This group will likely have a higher proportion of frequent "users" of health care than may be present in the rostered population as a whole.

The survey instrument was based on the Starfield primary care assessment tool (PCAT). In consultation with Dr. Starfield and experts on primary care and survey methodology in Canada, the survey was adapted to the Ontario situation. As well, additional questions were added to meet the requirements of the evaluation. The survey was approximately 25 minutes in length.

Responses have been weighted to reflect the relative number of rostered patients in the Hamilton, Paris, Kingston and Chatham sites.

16.2.2 Overview of the Starfield methodology

A brief overview of the methodology employed is presented below. A detailed description of the methodology can be found in Appendix D.

The Starfield framework assesses primary care reform from both a systemic and patient-provider contact perspective, and is designed to measure four key domains of primary care:

Starfield domains and definitions

Domain	Definition
First contact care (utilization and access)	defined as care that is accessible and addresses the extent to which the first visit for a new problem is made to the primary care facility
Longitudinality (Ongoing care)	addresses the goal of primary care for patients to establish a regular source of care that they can call 'their own' and for rostered patients to identify the PCN as their regular source of care. Personnel at a health care facility demonstrate the capacity to achieve this attribute if they are able to identify their patients and to define their enrolled populations
Comprehensiveness	defined as a facility's ability to provide services necessary for the well-being of their patients. This includes arranging referrals to secondary, tertiary or supportive services.
Co-ordination	encompasses mechanisms of information transfer and the process of problem recognition. Co-ordination of care is most simply achieved through patients interacting with the same practitioner over time. But it may also be achieved through a record keeping system that allows a team of practitioners easy access to important patient information. This requires mechanisms through which patient information can be recorded, saved and easily transmitted and retrieved to ensure recognition of previous visits and referrals and smooth interaction with hospitals, home care and referral networks.
Ancillary Domains	
Family centeredness	recognition of family factors related to the genesis and management of illness.
Community orientation	the provider's knowledge of community needs and involvement in the community
Cultural competence	the provider's ability to adapt their mode of care for patients from different cultural backgrounds

Response categories for the primary care domains were represented by a 4-point Likert scale (1=definitely not; 2=probably not; 3=probably; and 4=definitely). An additional

response category "Don't know/cannot remember" is included and coded as 2 (probably not).

For each domain, a mean score out of 4 is calculated by dividing the sum of the scores from the questions in the domain by the number of questions. A higher score indicates a more positive response to the specific domain. For example, a high score (e.g. 3.7 out of 4) on the domain "*Longitudinality*" indicates that the patient has had a strong relationship with the practitioner over time, with the intent to go to that practitioner for all non-referred and non-delegated care. A low score (e.g. 2.3 out of 4) on the domain "*Community Orientation*" would indicate that there is little or no use of community data in planning for services or for the identification of problems/issues by providers.

16.2.3 Control group

Some results of the survey of PCN patients are compared to preliminary analyses of responses by individuals in communities that are similar to those where PCNs are located where there are predominantly FFS primary care providers.

Individuals were selected based on whether or not they had received health services from a physician in the previous six months, and based on the age and sex breakdown of the PCN survey participants. Matched communities were identified as controls, and 390 telephone interviews were conducted with residents of those communities.

Results are also compared to results from Health*Insider* No 5 and No 6, 2001, consumer survey managed by PricewaterhouseCoopers. The Health*Insider* is a semi-annual telephone survey of 2,589 randomly selected Canadians aged fifteen and older. The Ontario sample is 328. This sample represents members of the Ontario population who have accessed health services in the past 12 months.

16.3 Demographics of PCN survey respondents

The following presents the demographic breakdown of the PCN survey respondents. As patients were recruited at the physicians' offices the respondents represent a cross section of PCN users over a three month period.

A higher proportion of females than males were recruited. This in part reflects the fact that females are more likely than males to use health services and to accompany their children to health services. Compared to the patient roster, a higher proportion of survey participants are in the 35-44 age group, and fewer aged 16-34 participated in the survey, again reflecting actual health service utilization patterns.

Demographic profiles of PCN survey respondents

Variable	Percentage
Sex	
Male	27.0%
Female	73.0%
Age	
16 to 19	2.0%
20 to 34	3.4%
35 to 44	40.0%
45 to 64	34.9%
65 to 74	12.3%
75 and older	7.3%
Patients with children under 16	
Yes	41.2%
No	58.8%
Marital Status	
Partner	76.0%
No partner	24.0%
Education	
Less than secondary	3.5%
Secondary	41.2%
Post-secondary	55.3%
Language Spoken at Home	
English	97.0%
French	3.0%
Employment Status	
Working	56.2%
Not Working	43.8%
Income	
Less than 20,000	13.9%
20,000 to 49,999	35.2%
50,000 and over	51.0%

16.4 Health Status

Most of the PCN patients reported that their health status was excellent (26.9%) or good (52.3%). Reported health status varied by age and sex with a higher proportion of those under 45 years reporting better health status than those older, and females being more likely to report a better health status than men. Those with higher incomes, with higher education levels, and employed were more likely to report their health status as excellent or good.

The Health*Insider* reported that a higher percentage (33.7%) of Ontario respondents and Canadian respondents (30.5%) said their health status as excellent compared to 26.9% of PCN patients. This difference may be due to the fact that the PCN patients surveyed had used health care services within the last few months, whereas the Health*Insider* results reflect the population at large.

Reported health status

Reported health status	PCN patient percentage	Ontario percentage	Canada percentage
Excellent	26.9%	33.7%	30.5%
Good	52.3%	51.5%	52.2%
Fair	16.0%	11.9%	14.4%
Poor	4.9%	2.9%	2.9%

Eighty-five percent of PCN patients reported at least one chronic condition or illness. The most common conditions included problems with eyesight, allergies other than food allergies, arthritis or rheumatism, back problems, and high blood pressure.

Reported chronic illnesses and conditions

Chronic Health Problem	Percentage
Problems with your eyesight	51.7%
Allergies other than food allergies	31.5%
Arthritis or rheumatism	30.3%
Back problems	26.0%
High blood pressure	20.9%
Migraine headaches	17.4%
Asthma	12.9%
Heart disease	10.0%
Bowel disorder	9.2%
Hearing problems	8.9%
Thyroid condition	8.7%
Osteoporosis	7.7%
Food allergies	7.3%
Diabetes (either juvenile or adult onset)	7.1%
Ulcers	6.9%
Sinusitis	6.4%
Chronic bronchitis and emphysema	6.1%
Cancer	4.7%
Effects of a stroke	2.6%
Other	1.9%
Mental health condition	1.3%
Musculo-skeletal	0.8%
Neurological	0.8%
None	14.6%

16.5 Extent of Affiliation with Place or Doctor

Most PCN patients (85%) scored 4 out of a possible 4 on the measurement of affiliation with a doctor or place, compared to 83% in the control group. Thirteen percent in both the PCN patient group and the control group, scored 3 out of 4. Two percent of PCN patients scored 2 out of 4; 5% scored 2 in the control group. The overall average for the PCN patient group was 3.8.

The majority of the patients in primary care reform pilot projects have a strong affiliation with their primary care provider. Affiliation means that: 1) there is a doctor or place that the patient usually goes if he or she is sick or needs health advice; 2) there is a doctor or place that knows the patient best as a person, and 3) there is a doctor or place that is most responsible for the patient's health care.

Almost half of PCN patients (47%) reported that they have been going to their regular doctor for more than ten years; 72% had been living in that community for 10 or more years. Another 23% have been going to their doctor for five to nine years, while 26% have been going to their doctor for two to four years, and 11% have been going there for one year or less. About two-thirds reported that everyone in their home uses the same regular doctor.

Length of time going to regular doctor

Length of time	Time with regular doctor	Time living in community
One year or less	11.7%	6%
2 to 4 years	19.2%	10%
5 to 9 years	22.2%	13%
10 years or more	47.0%	72%

In Ontario as a whole, 87.4% identify one physician as their regular personal doctor. Like the PCN patients, most Ontarians have a long standing relationship with their regular doctor with 68% remaining in the relationship for five years or more. Only 6.8% have been going to their doctor for a year or less, and only 31.7% have been with the doctor less than five years.

16.6 Office Hours

Three out of ten (29.4%) PCN patients reported that their doctor's office or a doctor's office in their network was definitely open on weekends. Thirty-eight percent indicated that it definitely was not open on weekends.

PCN patients were aware of PCN services being available weekday evenings, with 45.5% saying that the office was definitely open, and 14.1% indicating it was probably open. But, 19.5% reported that it was definitely not open. Notably, 7.8% of patients were not sure if their doctor's office was open on weekends, and 10.5% were not sure if it was open weekday evenings.

Just over half (56.6%) of Ontario respondents said that their regular doctor provides or arranges health care on evenings and weekends.

Patient knowledge of physician office hours

Response Categories	Is your doctor's office open on weekends?	Is your doctor's office open weekday evenings after 5p.m.?
Definitely	29.4%	45.5%
Probably	11.5%	14.1%
Probably not	13.3%	10.3%
Definitely not	38.0%	19.5%
Not sure	7.8%	10.5%

16.7 Rostering

Most PCN respondents confirmed that they were rostered with their regular doctor. However, when questioned, 7.7% said they were not rostered with their doctor, and 6.1% said they didn't know. This indicates that approximately 14% of patients are unaware as to whether or not they are rostered with a PCN. This indicates that while affiliation with their doctor is high, some patients are unsure about the rostering process. This result is confirmed by focus group findings.

The most frequently reported reason for rostering with a particular physician was that the patient had been a patient of the doctor prior to primary care reform. Over one quarter of PCN respondents gave this reason. One in five said they rostered because they had a preference for a certain doctor. Recommendations from family and friends or their physician, location preference, no other physician was available, or trust and confidence in the present doctor were other common reasons.

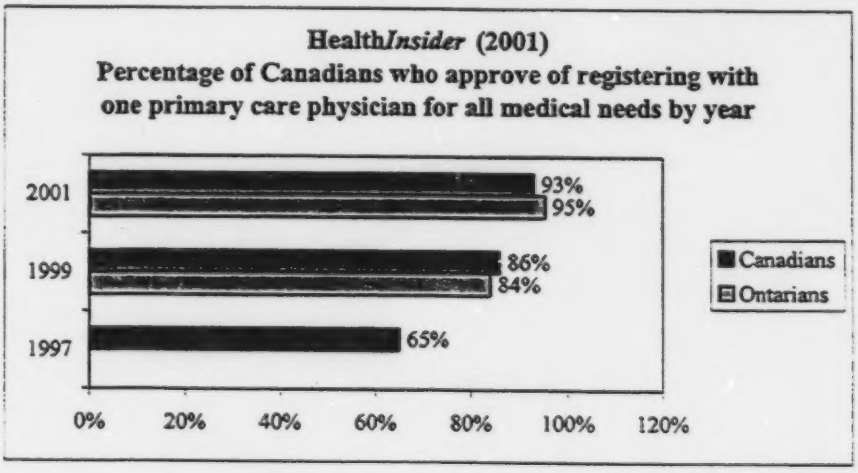
Reported reasons for rostering

Reasons for Rostering	Percentage
Have been a patient of this doctor	26.9%
Preference for a certain physician	19.5%
Family/friends recommended it	12.5%
Location preference	10.2%
No other physician available	9.5%
Your physician recommended it	8.1%
Trust and confidence in skill of present doctor	8.0%
Range of services available	4.2%
Liked present doctor	3.7%
Another person in the doctor's office recommended it	3.3%
Belief in reform components	2.7%
Other	2.6%
Convenience (hours of operation) and service availability	2.3%
New doctor took over previous doctor (i.e. retired)	2.1%
Not given a choice	1.2%
Doctor was part of a network	1.0%
Don't know	0.9%
Was in need of new doctor	0.9%
Information received in the mail	0.7%

Wanted a female doctor	0.7%
Telephone call from doctor's office	0.4%
Community meetings, articles in the paper etc.	0.4%

Support for the concept of rostering is high among the Ontario population; 95.3% of Ontario respondents said they approved of a relationship in which they would register with one regular or family doctor who would ensure that they and their family would receive all necessary medical services day and night, and who would arrange for medical specialists and other health services as needed. This result represents an increase of over 11% from 1999.

Although the majority of Ontarians approved of rostering with a single physician, only 2.1% of these respondents reported that they were involved in a formal primary care agreement. This indicates support for this concept is increasing in Ontario, and this could have positive implications for the provincial roll-out.



16.8 Primary Care Processes

The table below gives a breakdown of the number of annual visits to the doctor by PCN patients, and the annual number of visits for their children's health.

Number of annual visits to the doctor

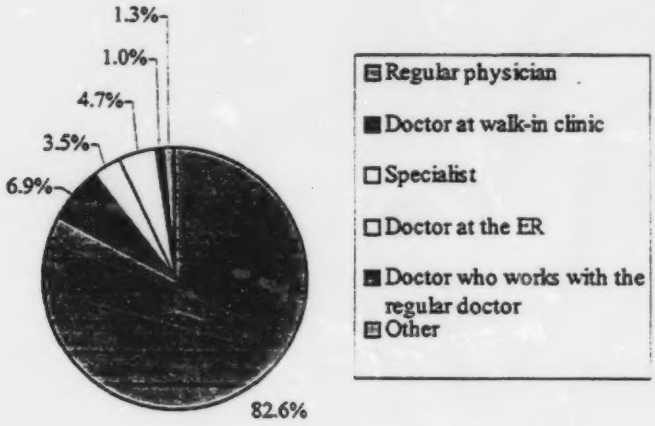
Visits to regular doctor in past 12 months for own health problems	Percentage	Visits to regular doctor in past 12 months for children's health	Percentage
No visits	1.3%	No visits	6.7%
1 to 2 times	28.0%	1 to 2 times	47.0%
3 to 5 times	32.5%	3 to 5 times	33.1%
6 to 10 times	20.3%	6 to 10 times	22.2%
More than 10 times	17.5%	More than 10 times	8.0%
		Children's doctor is different	2.2%

The last time they received health care services, most PCN patients (81%) visited their regular doctor. However, 7% saw a doctor who works with their regular doctor in the same office, and 6% saw a specialist. Two percent saw a nurse practitioner or nurse during their last visit.

Health professional seen at last visit for health care

Health professional seen	Percentage
Regular Doctor	80.9%
Doctor who works with regular doctor in same office or network	6.6%
A doctor who is a specialist	5.9%
A nurse practitioner or nurse	2.3%
Other	4.3%

For the Ontario population, 82.6% went to see their regular physician the last time they went for medical care. Approximately 7% went to a walk-in clinic and nearly 5% went to the hospital emergency room.



HealthInsider (2001)
Type of medical doctor seen at most recent visit

In addition to their doctor, many patients reported receiving advice or medical attention from a variety of health professionals at their regular doctor's office in the previous 12 months. Most frequently, patients had laboratory support services (42%) followed by a nursing care. One quarter reported having seen a nurse practitioner.

Type of health professionals seen at the doctor's office in the previous 12 months in addition to the doctor

Health Professionals	Percentage
Laboratory support services	41.7%
Nurse	32.0%
Both a doctor and a nurse practitioner	25.5%
Nurse practitioner	25.4%
Nutritionist or dietician	7.6%
Social worker	5.4%
Psychologist	4.0%
Other	3.3%

A higher proportion of the Ontario population than PCN patients reported that they went for a check up the last time they saw their doctor. More PCN patients saw their doctors about a long-term or chronic illness. These differences are likely because the PCN patients surveyed had accessed health services within past three months, and are likely to represent a greater proportion of individuals with chronic illnesses, than the overall Ontario population.

Reason for last visit to their regular doctor

Reason for last visit	PCN patients	Ontario Respondents
Regular check-up/health advice needed	36.2%	43.7%
Regular visit for long-term/chronic illness	22.9%	7.6%
New illness	22.1%	18.7%
Renew prescription	10.8%	6.5%
Worsening of long-term/chronic illness symptoms	6.8%	2.8%
Minor injury	6.7%	10.9%
Serious injury	3.5%	3.2%
Other	14.5%	6.5%

16.9 Primary Care Domain Scores

In this section, results from the Starfield scales representing core primary care sub-domains and ancillary domains are presented. These include: first contact utilization; first contact accessibility; ongoing care; comprehensiveness of services available; comprehensiveness of services received; co-ordination of care; family centeredness; community orientation; and cultural competence.

The table below presents the results of the survey of PCN patients and compares these with comparative data from similar communities in Ontario, and a health maintenance organization (HMO) and from a low income group in the United States where the Starfield tool has been implemented and validated. The scores presented are out of a possible 4.

Comparative Results

Domain	PCN patients	Control communities	United States[63]
Primary care domains			
first contact utilization	3.9	3.8	3.6
first contact accessibility	3.1	2.5	2.8
ongoing care	3.6	3.6	3.3
comprehensiveness of services available	3.4	3.3	3.0
comprehensiveness of services received	2.4	2.4	2.8
co-ordination of care	3.4	3.5	3.2
Ancillary domains			
family centeredness	3.2	3.2	3.3
community orientation	2.4	2.4	2.1
cultural competence	3.4	3.3	3.1

16.9.1 First contact – utilization and access

PCN patients scored high on first contact utilization indicating that they generally go to their regular doctor the first time they seek care for a new health problem. At the same time, 26% of PCN patients reported that there was a specialist that they go to regularly for a chronic illness or condition without needing a referral.

The score for first contact – access was lower, indicating there are some limitations to access to health care services at their primary care networks, mainly related to after-hours services.

Emergency room services

Four in ten (39%) had either gone to the emergency room themselves or with their child in the past 12 months. In over half (57%) of these instances, they had gone to the emergency room without first trying to contact their doctor or using a telephone support line.

Some people in the patient focus group said they are still going directly to emergency as opposed to calling their physician's office or the 1-800 number. Some are unsure about the appropriate actions after hours, and tend to keep doing whatever they were doing (e.g., go to emergency room, call the doctor) before the PCR.

[63] Shi L, Starfield B, Xu J "Validating the Adult Primary Care Assessment Tool" The Journal of Family Practice February 2001 Vol. 50, No. 2.

Wait times for appointments

Thirty percent of PCN patients were seen by the doctor the same day of the request; another 14% were seen the next day. A greater percentage of respondents from the general Ontario population (35.5%) indicated that they were seen by the doctor the same day. However, patients within a PCN were less likely to have to wait more than four weeks for an appointment than those from the general Ontario population. One explanation as to why a greater proportion of the Ontario population was seen on the same day compared to the PCN patient population may be that the Ontario results include some who went to walk-in clinics.

Reported waiting times

Waiting times for an appointment	PCN patients	Ontario population
same day	29.9%	35.5%
1 day	15.6%	14.7%
Within 3 days	24.0%	24.1%
4 to 7 days	15.8%	14.0%
2 weeks	8.5%	4.5%
3 weeks	1.5%	1.5%
4 weeks	0%	3.8%
5 to 8 weeks	3.7%	0.6%
More than 2 months	0.9%	1.3%

Although, waiting times may be the same or slightly longer, there is greater acceptability of the length of waiting times among PCN patients, and significantly fewer patients say that wait times are unacceptably long.

Acceptability of waiting times

Description of length of time waiting for an appointment	PCN patients	Ontario population
Acceptable	87.2%	80.8%
Long, but acceptable	8.2%	7.1%
Unacceptably long	4.5%	12.1%

Findings from patient focus groups found that participants noted that wait times for appointments are still long and had not changed. There was no indication that the time between health care needs and appointments with a care provider had changed. Patients indicated that their ability to see a doctor was related to the urgency of their need, although there appears to be more frustration in not being able to access services in a timely manner. Some had seen other doctors in the network when their regular doctor was not available.

Once in the office, half of the PCN patients are seen within 15 minutes. However, 30% wait 15-29 minutes, and 15% wait longer than half an hour.

Waiting times in the PCN office

Length of time waiting in office past appointment time	Percentage
Less than 5 minutes	13.6%
5 to 9 minutes	15.2%
10 to 14 minutes	21.7%
15 to 29 minutes	29.9%
30 to 44 minutes	10.4%
45 to 59 minutes	3.1%
More than one hour	1.3%

Most PCN patients (84%) said the waiting times in the office were acceptable. This feeling was also expressed by participants in patient focus groups. However, some focus group participants believe that waiting times were shorter than in the past. There is a general recognition that the process at the office is more efficient, with information taken up front by other staff and the entry of information into computerized systems.

Acceptability of waiting time in the PCN office

Description of length of time had to wait in office after appointment time	Percentage
Acceptable	83.5%
Long, but acceptable	11.7%
Unacceptably long	4.9%

Unmet Needs

Patients were asked about any unmet needs that they had in the past 12 months. Eight percent felt they had unmet needs regarding treatment of a physical health problem, and 8% felt they had unmet needs regarding a regular check up. Almost 7% had unmet needs regarding treatment of an injury and 4% had unmet needs regarding treatment of an emotional or mental health problem. These results differ little from the Ontario population as a whole.

Reported unmet needs

	PCN patients	Ontario population
Treatment of a physical health problem	8.4%	8.6%
Regular check up (including prenatal care)	8.2%	N/A
Care of an injury	6.5%	5.9%
Treatment of an emotional or mental health problem	4.3%	4.9%

16.9.2 Ongoing care

The Starfield component for ongoing care essentially covers the level of familiarity that the patient's regular doctor has with them. The average score for this component was relatively high.

Most PCN patients (93%) reported that their regular doctor took care of most kinds of health problems. Forty-three percent were seeing their doctor for an ongoing medical problem. These results are similar to those reported in Ontario, where 96.3% indicated that their regular doctor handled most of their health care needs.

16.9.3 Comprehensiveness of services available and services received

The comprehensiveness of services *available* score measures whether a variety of services are available at the doctor's office. On this component, the average score for PCN patients was relatively high. However, the average score for the comprehensiveness of services *received* component is substantially lower (3.4 versus 2.4).

PCN patients were asked about whether they had received various services in the past 12 months from their regular doctor. A higher proportion of PCN patients than the Ontario population had had a routine physical examination, a flu shot and their blood pressure and cholesterol checked in the past year. More women (55%) in the PCNs reported having had a Pap test than women in Ontario. (Note that the Ontario results reflect the receipt of these services from any provider).

Notably, reported rates for preventative interventions covered by the bonus codes are below the targets.

Health interventions received in the past 12 months

Service	PCN patients	Ontario population
Blood pressure check	85.0%	68.6%
Routine physical examination	65.0%	56.4%
Immunizations (For those with children under 16 only)	54.8%	N/A
Cholesterol check	49.9%	33.9%
Flu shot	41.1%	25.9%
Rectal exam for prostrate cancer (Men only)	32.7%	37.0%
Pap Test for cervical cancer (Women only)	55.2%	44.2%
Mammogram (Women only)	20.9%	31.8%

16.9.4 Co-ordination of care

The co-ordination of care component of the survey is intended to measure the extent to which patients' care is co-ordinated by their regular doctor. On this component, the average score was 3.4, suggesting that most patients experience a relatively high level of co-ordination of care.

Over half (54%) of the PCN patients had been referred to a specialist in the past 12 months.

Most (83%) were comfortable with their physician using computers for co-ordination of care activities such as recording patient's medical history, checking what medications patients are using, or showing patients information about their health.

16.9.5 Ancillary domains

Based on the PCN patients responses, the PCNs scored relatively well on culture competence, and slightly lower on family centredness, but relatively low on community orientation.

16.10 Satisfaction

PCN patients' satisfaction with the treatment and care they receive from their regular doctor is high. PCN patients appear to be more satisfied than the Ontario population at large with their last visit to a GP/FP. Satisfaction is higher for treatment and care provided by GP/FPs than specialists, and is higher than the overall satisfaction rating for all treatment and care received in the past year.

Satisfaction with regular doctors

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
Overall satisfaction of *PCN patients* with treatment and care received from regular doctor	86.4%	11.4%	1.7%	0.5%
Overall satisfaction of *control group* with treatment and care received from regular doctor	84.5%	10.1%	3.0%	2.0%
Satisfaction of *PCN patients* with treatment and care received at last visit with regular doctor	84.9%	11.9%	2.6%	0.4%
Satisfaction of *control group* with treatment and care received at last visit with regular doctor	85.5%	10.4%	2.3%	1.9%
Ontario population's satisfaction with medical treatment and care received from a family physician at last visit	67.1%	25%	5.6%	2.3%
Satisfaction of *PCN patients* with range of health care available from regular doctor	80.9%	17.6%	1.4%	0.1%
Satisfaction of *control group* with range of health care available from regular doctor	71.2%	25.2%	2.8%	0.8%

Satisfaction with specialists and health care system

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
PCN patients' satisfaction with medical treatment and care received from the specialist they visited last	74.4%	19.3%	3.1%	3.1%
Control group's satisfaction with medical treatment and care received from the specialist they visited last	69.8%	20.7%	2.7%	6.9%
Ontario population's satisfaction with medical treatment and care received from the specialist they visited last	65.2%	25.1%	5.3%	4.4%
Overall satisfaction of *PCN patients* with health care services received in the past 12 months	72.3%	22.3%	3.4%	2.0%
Overall satisfaction of *control group* with health care services received in the past 12 months	68.3%	23.3%	4.7%	3.8%

In one of the communities where focus groups were conducted, concern was expressed that the physician has very little time to spend with them. Some participants felt that visits are often rushed and physicians do not seem to have the same level of familiarity with their patients as in the past. However, this has been the situation for some time and is not a change since the PCN was introduced. Furthermore, some participants felt that they did not have the same choice among doctors that they had in the past. There was a feeling that you have to stay with your doctor even if you are not satisfied with the care, since many doctors do not accept new patients.

16.11 Summary

Based on the results of the survey of PCN patients and the focus groups, patients are very satisfied with the treatment and care they receive from their regular doctor. However, patients in one community reported that they felt there was less choice of doctors than in the past, and that they had to stay with their doctor even if they were not satisfied because many doctors do not accept new patients.

Based on the results of the patient focus groups, patients have noticed little change in access, waiting times or quality of care with the introduction of primary care reform. The patients in the focus groups also felt that the doctors were often rushed, although they say this was the case prior to PCR as well.

Overall, the PCNs scored relatively high on all the primary care domains except for two. The PCNs received the highest average scores for first contact-utilization component and ongoing care component, followed by comprehensiveness of services available, coordination of care and community orientation. The two components where the PCN scored relatively low were comprehensiveness of services received and community orientation.

Overall, the PCNs scored the same as the regular primary care providers in the control communities, except with regard to access, where they scored higher. This likely reflects the rostered patients' access to the teletriage services and extended office hours.

As well, when compared to provincial rates, a higher proportion of PCNs patients appear to have received preventative interventions such as routine physical examinations, flu shots and pap tests.

PART D: CONCLUSION

This part of the report brings together the evaluation findings to answer three important questions about primary care reform in Ontario:

- Are we achieving the primary care reform goals and objectives?
- What is holding us back?
- What do we need to consider as we move forward?

17. Are We Achieving the Primary Care Reform Goals and Objectives?

This section summarizes the findings presented in previous sections and organizes them according to the four primary care goals. The findings are used to draw interim conclusions about the extent to which the four primary care reform goals have been addressed. It is important that these conclusions be considered interim in nature because the evaluation is ongoing and the PCNs are at various stages of implementation.

For each goal, achievements in relation to each of the objectives are outlined. The barriers to attaining the goals are also described in the subsections below.

17.1 Goal #1 - Improved Access

Access Objectives

- Improve the distribution of physicians and non-physician primary care providers in order to improve patient access in areas of relative geographic undersupply
- Improve the co-ordination of patient care
- Improve access to health care by means of a 24-hour response system

Several components of primary care reform are contributing to improved access for patients. Achievements in relation to each of the objectives listed above are outlined below. The barriers to access are also described.

Objective: Improve the co-ordination of patient care

- 13 PCNs are in place in six communities
- All PCNs provide extended hours and share call (including on-site at designated locations) to ensure after-hours coverage. The establishment of new on-call and coverage arrangements that did not exist previously has improved co-ordination of care in some communities. Physicians know who will be looking after their patients when they are out of the office. Because the physicians are all part of a network, PCN meetings and informal communication channels are being used to communicate about or follow-up on on-call patients.

Objective: Improve the distribution of physicians and non-physician primary care providers in order to improve patient access in areas of relative geographic undersupply

- Three of the pilot sites are located in areas of the province that have been designated by the Ministry as underserviced- - Chatham, Paris and Parry Sound
- Physicians in other pilot sites (e.g. Hamilton) also report that there are not enough family physicians in their community, their practices are full and they are no longer accepting new patients
- Nurse practitioners are currently working in Paris, Hamilton and Rural Kingston. Paris is an underserviced area.
- Where they exist, nurse practitioners are sharing the patient load and reducing the burden on physicians.
- In some cases, the increasing of rosters has provided access to patients who previously did not have a family doctor.
- At this stage in the evaluation, no conclusions can be drawn about the distribution of physicians.

Objective: Improve access to health care by means of a 24-hour response system

- The volume of patients using the teletriage service has surpassed the level of utilization expected. Over 15,000 calls were received in the eight months from September 2000 to May 2001.
- The physician linkage to the teletriage service informs physicians when their patients contact the ON-Call Healthline with a health concern, even if the patient is calling from another province or the U.S. Most physicians report that they are reading the fax back form and then filing it in the patient's chart making it part of the ongoing patient record.

Some of the barriers to improved access are:

- Newer PCNs (i.e. McMaster, Parry Sound, West Carleton) have been unable to offer the teletriage service to their patients because of ongoing negotiations between the teletriage provider and the CTHM about volumes.
- In some communities (e.g. Carlisle, Rural Kingston) patients have traditionally had direct access to their family physician after hours. These patients perceive the teletriage service as a barrier or a reduction in the level of access they are accustomed to.
- The teletriage service has been under-utilized in Chatham.
- Similarly, direct marketing of the teletriage service to the homes of rostered patients has been delayed due to concerns about volumes.
- Not all PCNs have a nurse practitioner.
- Stakeholders report that there is often poor communication among the various health care providers in a community.
- There are few incentives (financial or accountability) to improve co-operation and communication among care providers and other stakeholders
- Lack of an electronic interface between PCNs and other providers.

The access objectives (co-ordination, availability of service providers and 24-hour response) provide a very focused definition for access. However, access is often defined more broadly to include linguistic access, physical access for people with disabilities, geographic proximity and hours of operation. Although these factors have not been included on the list of access objectives, they will nevertheless be important considerations for the ongoing operation of the PCNs.

17.2 Goal #2 - Improved Quality and Continuity of Care

Quality and Continuity of Care Objectives

- Improve the continuity of care through the effective use of technology
- Increase preventive care initiatives
- Improve the willingness of primary care providers to stay within the agency/group
- Enhance the involvement and appropriate role of primary care physicians
- Enhance the involvement and appropriate role of non-physician primary care providers
- Clarify the role of specialized primary care physicians
- Improve continuing education of primary care providers

Objective: Improve the continuity of care through the effective use of technology

The literature shows that clinical management systems have the potential to improve quality of care by reducing medical errors and adverse drug reactions. Clinical management systems are being used to various degrees within the pilots. Some physicians are using the following functionalities that can potentially improve quality of care:

- Electronic medical records that facilitate analysis of patient histories to identify trends or specific patient groups (e.g. patients taking a specific drug)
- Templates for specific disease groups or common interventions that improve the standardization of care

Objective: Increase preventative care initiatives

- Information technology is being used to provide the physician with electronic reminders of when patients are due for preventive interventions such as immunizations, mammograms, pap smears, prostate testing, flu shots, etc.
- Technology is also being used to let physicians know when to re-call patients that require monitoring for chronic conditions such as diabetes or high cholesterol
- Some nurse practitioners are providing health promotion/prevention programs such as flu clinics, smoking cessation and diabetic teaching
- At this stage in the evaluation, no data has been collected on the volume of preventive interventions performed before and after primary care reform

Objective: *Improve the willingness of primary care providers to stay within the agency/group*

- Very few physicians have left the PCNs since they were introduced. To date, seven physicians have left their PCN for various reasons (including one death and two retirements), but none have left due to dissatisfaction with primary care reform.
- Twelve physicians have joined existing networks since the PCNs were established.
- Two physicians have moved from one PCN to another PCN.
- Many of the Hamilton PCNs continue to have expressions of interest from physicians wishing to join their network.

Objective: Enhance the involvement and appropriate role of primary care physicians

The following extract from "Primary Care Reform Goals, Objectives and Targets", (MOHLTC, December 1999) is helpful in understanding the intent of this objective:

> *In the reform process there will be a shift from the hospital-disease based model to the patient-centred care coordinated approach. In fulfilling this role the family physician will be more fully integrated into the complete spectrum of patient care. The primary care reform will emphasize disease prevention, health promotion and community-based care as well as acute, chronic and rehabilitative care. The physicians will function as a member of a larger health care team exchanging information with a multidisciplinary team and functioning as a coordinator of care through a patient's lifespan. Integral to the role of coordinator, there is an expectation of improved communications and better integration with secondary and tertiary care at both the hospital and community level.*

- At this stage, there is little evidence that progress is being made on this objective. Most PCNs and PCN physicians have not established linkages with other components of the health system beyond what existed prior to primary care reform.
- Payment mechanisms may also have an impact on the involvement and appropriate role of primary care physicians. Some physicians on the capitation payment model have said that they have revisited their treatment and follow-up patterns. One physician said, "with different incentives, there is a natural tendency to look professionally at what is really needed. This allows you to look at your practice differently."

Objective: Enhance the involvement and appropriate role of non-physician primary care providers

The introduction of nurse practitioners into PCNs that did not have them previously has had the following quality of care or continuity of care impacts:

- Some nurse practitioners are conducting home visits and providing the physician with reports on their findings; in one case the nurse practitioner has established a linkage with the CCAC and coordinates her visits around visits by the patient's home care nurse.

- Information collected from nurse practitioners suggest that their patient appointments tend to be significantly longer than a physician's typical appointment.
- Nurse practitioners are supplementing the medical expertise in the PCN with their expertise in health promotion and patient education.
- Former HSO physicians have been permitted to keep their specialized resources (mental health counsellors, dieticians, psychiatrists) under primary care reform.

Objective: Clarify the role of specialized primary care physicians

- At this stage in the evaluation it is not possible to draw conclusions about this objective.

Objective: Improve continuing education of primary care providers

- Physicians on capitation feel that access to continuing education has increased because there is no financial penalty for taking time off for CME and some physicians have coverage arrangements with other physicians in their PCN to ensure that patient needs are met while they are away.
- At this stage in the evaluation, it is not possible to comment on the nature and amount of continuing education that physicians are receiving

Barriers to improving quality and continuity of care are:

- The level of implementation of clinical management systems varies from physician to physician and network to network.
- Some components of the Ministry's IT initiative are not yet available (e.g. secure e-mail that has the potential to improve continuity of care and drug interaction software that will likely have a positive impact on the quality of care).
- Not all PCNs have a nurse practitioner.
- In some cases, the nurse practitioner to physician ratio is extremely low and the nurse practitioner is challenged to work with several physicians in several different offices.
- Integration of specialized resources (e.g. psychiatrists, mental health counsellors, dieticians) into primary care practices improves quality and continuity of care. However, the PCNs that are able to provide this level of service to their patients were doing so prior to primary care reform (i.e. when they were HSOs). There is an inequity in the model whereby physicians that were former HSOs have access to these specialized resources and other physicians do not.
- There has been a lack of success of bonus codes in relation to increased utilization and comprehensiveness of preventative care. While the physicians support the premise of the preventative bonus codes and wish to employ a more preventative emphasis in their practices. Many are finding it difficult to reach the required targets, and others feel it is not worth the effort. For some physicians, the tools for monitoring their progress are not in place. As, well few physicians agree with the Ministry's records and feel they have achieved higher rates than they have been remunerated for.
- The system is "stretched to the limit" and prevention sometimes gets sacrificed in favour of treatment.

17.3 Goal #3 - Increased Patient and Provider Satisfaction

No specific objectives have been identified for this goal. Overall comments are provided below.

17.3.1 Patient Satisfaction

- Preliminary results from the patient survey suggest that PCN patients are more satisfied with their regular doctor than Ontario patients as a whole.
- Preliminary results from the patient survey also suggest that PCN patients are more satisfied with GP/FP services than with other levels of care. This is comparable to results from other surveys of Ontario residents in general.
- According to reports by the teletriage service provider, 89% of callers to the teletriage service agree with the advice provided by the teletriage nurse.

Since the start of this evaluation, six patient focus groups have been conducted in three communities (Carlisle, Rural Kingston and Paris). The focus groups discussions provide some very high-level insights into patient satisfaction.

- Generally speaking, patients are very satisfied with their care and described the quality of care they receive from their PCN as good or very good.
- The focus groups found that patients feel the addition of a nurse practitioner has enhanced the quality of primary care they receive due to improved access to health information.
- However, overall patients have noticed little change in access, waiting time or quality with the introduction of primary care reform.
- The following is a list of some of the concerns that focus group participants have raised in specific communities:
    - Participants overwhelmingly indicated that they would have liked to have more information on the primary care network.
    - Participants noted that wait times for appointments are still long and have not changed. (Preliminary patient survey results suggest that most patients find wait times acceptable or even acceptably long.)
    - A common concern among patients is that the physician has very little time to spend with them. Participants felt that visits are often rushed and physicians do not seem to have the same level of familiarity with their patients as in the past. However, it was noted that this has been the situation for some time and is not a change since the PCN was introduced.
    - Some participants felt that they did not have the same choice among doctors that they had in the past. There was a feeling that you have to stay with your doctor even if you are not satisfied with the care, since many doctors do not accept new patients.
- Another subjective indicator of patient satisfaction is the fact that very few physicians report having to de-roster patients because they are dissatisfied with primary care reform. (However, there have been a few cases of patients asking to be de-rostered because the PCN did not meet their expectations.)

An extensive patient survey is currently being conducted for the evaluation that will provide useful information on patient satisfaction. Preliminary results are presented in Section 16.

17.3.2 Provider Satisfaction

Physicians

- Satisfaction levels appear to be on the increase as the hectic pace of the start-up phase winds down for most PCNs.

The following aspects of primary care reform have been reported to have a positive impact on physician satisfaction:

- Opportunity to share after hours and holiday coverage with a group of physicians that they know and trust
- Fewer after-hours calls due to ON-Call Healthline
- In some PCNs, IT has improved administrative efficiencies and saved time
- Closer bond to patients due to contractual arrangement
- Under the capitation mechanism, many physicians are making more money
- Under the capitation mechanism, there are lifestyle benefits such as more time off
- Under the capitation mechanism, there are more opportunities for CME
- Several physicians report that overall they have an improved quality of work life because of the stable income and the ability to take vacations and attend CME without fear of losing revenue. One physician indicated that the greatest benefit of participating in a PCN has been that "the stress level has gone down," and that he is "able to provide better, more efficient office care."

Several issues have also reduced physician satisfaction with primary care reform. They include:

- Delays in the acquisition of IT systems
- Delays in the availability of specific IT components
- Technology problems
- Time required for initial enrolment activities
- Delays in starting the teletriage service

A physician survey is currently being conducted that will provide more insights into physician satisfaction levels.

Nurse Practitioners

Satisfaction levels among nurse practitioners vary substantially. Over the past six months, the high amount of turnover in these roles is disconcerting. Key issues of dissatisfaction include:

- Extremely challenging work situations in terms of very low nurse practitioner to physician ratios and the need to travel to several different office locations

- Lack of clear goals and role definitions
- Lack of understanding among physicians about the nurse practitioner scope of practice and the time involved in carrying out her role
- Inadequate supports and resources
- Feelings of isolation
- Inadequate budgets

This low level of satisfaction raises concerns about the ability of the primary care networks to attract and retain nurse practitioners in the future. It will be important to implement strategies to improve the level of interest of both nurse practitioners and physicians in the nurse practitioner role in primary care reform. This will likely be particularly significant in areas of the province where there is a shortage of family physicians and the existing family physician complement cannot handle the workload.

17.4 Goal #4 - Increased Cost-effectiveness of Health Care Services

Cost-effectiveness Objectives

- Decrease duplication of patient care and diagnostic testing
- Improve drug utilization
- Increase the use of cost-effective information technology
- Increase patient and provider accountability for the appropriate use of health care resources

At this stage in the evaluation, administrative data has not been analyzed, therefore, it is not possible to comment on what changes may or may not have occurred in regards to diagnostic testing and drug utilization.

Objective: Increase the use of cost-effective information technology

- The use of practice management software for appointment scheduling and billings has improved office efficiencies.
- The use of electronic medical records reduces the amount of paper used and the amount of physical storage space required for new patient charts. It also improves the efficiency of information retrieval (including identification of specific patient groups, graphing of trends, etc).

Objective: Increase patient and provider accountability for the appropriate use of health care resources

- The introduction of the teletriage service provides an opportunity for patients to seek professional advice about the appropriate level of care required for their health concern. For example, patients can receive advice on whether or not they should seek emergency care.
- Overall, the teletriage service appears to have had a positive impact on emergency room utilization. Data from the teletriage service provider suggests that in the absence of the teletriage service the callers would have made 1,874 visits to hospital

emergency rooms. However, the teletriage service advised only 871 callers to seek emergency care – a difference of 1,003 visits. These 871 callers represent 6% of all callers. By comparison, Telehealth Ontario reports that 13% of its callers were advised to seek emergency care.[64]

It is important that expectations be managed around the impact that teletriage programs can have on emergency room utilization for the following reasons:

- Sometimes it is appropriate for callers to be advised to visit the emergency department even if it was not their pre-intent
- In some communities (particularly rural areas and areas with physician shortages), the emergency room may be the most appropriate option for after-hours care if the family physicians are also providing emergency room coverage
- Different strategies might be required for "heavy users" because a recent study on heavy users of emergency room services in Ontario reported that lack of access to primary care was not found to be a major cause of heavy emergency department use.[65]

The extent of outside use by rostered patients is another indicator of accountability for the appropriate use of resources.

- According to the Ministry, PCN physicians are sent quarterly reports on their actual outside use. These reports are broken down by physician and a total rate is given for the PCN as whole. For networks that receive group rather than individual capitation payment only, the outside use rate for the entire group is reported.
- Some physicians receive reports on outside use for their specific patients and take the opportunity to counsel patients about the importance of using the PCN as their main point of contact for primary care services.

A barrier to greater use of this type of accountability mechanism is that as of October 5, 2001, only 33.2% of enrolled patients have signed consent forms. A breakdown of consent by each category is not available. However, anecdotal reports indicate that typically when a patient submits a signed consent form they usually check all five consent categories. This means that two-thirds of patients have not given consent for the release of information on their outside use. If physicians are interested in outside use by individuals they can request a consent data report for primary care services, either for a specific patient or all their rostered patients. The consent report on primary care services would only be produced for those patients who have submitted a signed consent to the Ministry. (Note: Outside use only applies to the PCNs that are globally funded. It does not apply to the reformed-fee-for-service sites.)

It has also been proposed that nurse practitioners might have an impact on cost-effectiveness. There is no definitive evidence on the economic impact of nurse practitioners in the PCNs. A cost-effectiveness analysis should include measurements of

[64] "Hello, nurse?' Medical advice a phone call away — $45 million service helps to ease pressure on emergency rooms", by Prithi Yelaja, The Toronto Star, October 6, 2001.
[65] Ovens, Howard and Chan, Benjamin. "Heavy users of emergency services: a population-based review", Canadian Medical Association Journal, October 16, 2001; 165 (8), page 1049.

outcomes. When assessing cost-effectiveness, elements such as effectiveness of care, safety of care and patient satisfaction could be included. From a cost benefit perspective one needs to determine to whom the benefits are accrued: the physician, patient or society. But even from a purely cost perspective the impact is unclear.

An evaluation of cost effectiveness requires comparators. From a short-term perspective, cost-effectiveness can mean a reduction in cost by eliminating a service or procedure. However, there is need to measure the impact of this on service use patterns and frequency, outcomes and eventually population health status. It will be important to measure the real impacts of changes at the primary care level.

18. What is Holding us Back?

The previous section indicates that there has been some progress towards achieving the goals of PCR. It is difficult to make general statements about the pilots because not all PCNs are moving forward at the same pace, there are situations unique to some PCNs, and within PCNs there is variation among physicians. However, for the most part, there is a sense of disappointment among stakeholders that the networks as a whole are not further along. The barriers to progress can be divided into three categories:

4) **Implementation barriers.** These are barriers that relate, not to the model, but to how the model has been applied in practice. Implementation barriers usually have a high likelihood of being addressed over time as experience is gathered, feedback is obtained and corrective action is taken. For pilots such as the PCNs that are intended to entice broader participation in the model, it is critical that implementation barriers are identified and addressed as soon as possible. This must be a priority.

5) **Model barriers**. These barriers speak to fundamental problems with the primary care reform model that is being implemented. Identification of these barriers will be important to OFHN, the Ministry and the OMA who are committed to learning from the pilots so that the model can be fine-tuned and improved in preparation for the provincial roll-out.

6) **Systemic barriers**. These barriers relate to the structure and nature of the health care system in which the pilot is being introduced. Systemic barriers are not unique to the pilot. They usually existed prior to the pilot and affect other health care services and programs as well. Addressing systemic barriers will require significant action on the part of funders, policy makers and planners. The corrective action required will likely be long-term.

Discussion on each of the three types of barriers is provided below:

18.1 Implementation Barriers

For the most part, the implementation barriers were described in the findings sections and in the previous section on achievement of goals. In summary, these barriers are:

Physician Readiness

- Insufficient preparation of physicians for the myriad of new roles they would have to play in the pilots (e.g. IT acquisition, budgeting, administration, hiring and managing nurse practitioners)
- Lack of a change management process for physicians and other staff

Information technology delays

- Delays in addressing security and access issues that have impacted on the introduction of important IT components (e.g. e-mail)
- Lack of joint planning with IT vendors to collaboratively problem solve
- Lack of provincial standards for laboratory linkages that has contributed to hesitancy on the part of the private sector about investing in the required systems

Teletriage Volume

- Inability to respond to higher than anticipated teletriage call volumes in a timely manner. This resulted in delays for three of the PCNs to participate in the teletriage service as well as delays in the patient mail-out to promote the service

Few Multidisciplinary resources

- Insufficient allocation of nurse practitioners to the model (i.e. only seven nurse practitioners to 166 physicians)
- Lack of allocation of additional resources (beyond what former HSO physicians already had) for specialized resources, such as dieticians, mental health counsellors

Rostering

- Lack of on-line enrolment capabilities resulting in an unnecessarily time consuming, paper-intensive process
- Lack of tools for providing physicians with information on outside use without violating patient confidentiality when consent has not been provided
- Logistical problems with patient mail-outs from the Ministry
- Although the Ministry offered to translate the physician cover letter that was included with the enrolment mailings in other languages, no formal provisions have been made to address the multilingual nature of the province's diverse population (e.g. enrolment forms and the teletriage service are provided in English and French only)

Role of stakeholders

- Lengthy negotiation processes with some PCNs (West Carleton signed their PCN agreement in November 2000, and Parry Sound signed their agreement in March 2001)
- Delays providing for some PCR components (e.g. teletriage, on-line rostering, IT) by the MOHLTC
- Less than expected support from the OMA

Public relations

Insufficient stakeholder support has been identified as a major barrier to the broader implementation of primary care reform in Ontario. The Ministry needs to promote the pilots and primary care concepts more effectively. An improved "sales pitch" to both the public and doctors for primary care reform is needed.

More patient and public education about primary care reform is required to ensure that patients understand their responsibilities (e.g. outside use), as well as to manage

expectations about what services and support they will receive. For example, media reports about PCNs/FHNs have set unrealistic expectations about 24/7 access and availability of multidisciplinary resources.

Overall, physicians need to be sold on the PCN concept, and then develop enthusiasm about the reform and the IT component. Many physicians say that the OMA also has to take responsibility and accountability for selling primary care reform, and allaying physician concerns.

18.2 Model Barriers

Some limitations and issues related to the primary care reform model have been identified. These issues need to be addressed so that the model can be fine-tuned and improved in preparation for the provincial roll-out.

18.2.1 Primary Care Physician Remuneration

What is the most appropriate funding model for primary care physicians? As in many jurisdictions, Ontario is presently grappling with this question and the challenge of determining an appropriate physician funding model(s) that provides physicians with adequate remuneration for their services and the proper incentives for achieving the stated goals of primary care reform.

The physician remuneration section of this report provides detail on the PCR payment models. The following are limitations of the existing models:

- Bonus codes have not been implemented effectively
- Negation remains a contentious issue
- Lack of data to measure the impacts of the incentives in the payment models

The incentive structure of the capitation and RFFS models have different impacts on the number and type of patients that could be rostered, and the way in which their treatment and care is managed. While there is anecdotal evidence that capitation has had some of the intended impact on practice patterns, there are reports that some patients and patient groups are being excluded from rosters. There is no evidence of changes in practice patterns in the RFFS PCNs.

In both payment models, the preventative bonus codes have not been implemented effectively, and the incentive structure appears to have been inadequate to entice physicians to employ the effort required to reach the targets. As well, there may be mitigating circumstances where negation should not be applied.

It is outside the scope of this evaluation to assess the economic impact of the remuneration models. To date, there are little or no quantitative data available to assess the impact of the new payment mechanisms on: patient satisfaction; quality of care; patients with special needs; utilization and cost of care; length of office visits; referral

rates to specialists; and preventative care. Data on the impact of the various payment models are required to allow for informed decision making on physician remuneration. As well, the impact of the incentives in the payment models should be monitored to ensure that they do not adversely impact on access to or quality of care. Stakeholders feel they require more information in this regard before embracing any one approach. A more in-depth economic analysis of proposed and existing payment schemes could provide stakeholders with more concrete evidence upon which to base their decisions.

A number of primary care payment schemes have been implemented in Ontario in the past and several others have been proposed by various stakeholders. Some believe that there should be options for physician funding that include appropriate incentives depending on the nature of the physician's practice (e.g. practice location, patient profiles, service mix, etc.). Many support a blended funding scheme with capitated core services and a combination of other incentives, such as variable payments based on volume, patient acuity and service mix.

But money is not the only incentive that needs to be employed for improving the delivery of primary care (e.g. blended payment and preventative bonuses). Different payment mechanisms alone will not change practice patterns. A cultural change is required as well. According to one stakeholder, "doctors too often object on principle and explain in terms of money."

18.2.2 Physician Accountability

Family physicians play an important role as gatekeepers and co-ordinators of health care services. Their critical role and significant share of the health care funding envelope suggest a need for performance-based accountability. The need for greater physician accountability has been recommended by various authorities:

- As one of the principles for physician involvement in health care reform, at the General Council in 1997, the Canadian Medical Association adopted the principle that:

  New models of health care funding, management and delivery must include mechanisms that ensure transparency for the use of funds and define accountability for physicians, other health care providers, patients, managers and the insuring agency.[66]

- In its December 1999 report, Primary Health Care Strategy, the Health Services Restructuring Commission recommended that primary care group practices as part of their accountability to their patients and the Ministry, submit regular report cards addressing client care, human resources management and financial responsibility.

- The auditor's report of April 2000 to the Ministry of Health and Long-Term Care, Health Service Organization and Primary Care Network Programs recommends that

[66] Scully H. "Building on the Best Delivery Systems in the World." **HealthcarePapers** Winter 1999, Vol. 1, No. 1 pp23-32.

in order to assess quality of care the Ministry should develop appropriate performance measures and standards, and a health performance information system. Research is underway to develop a framework for measuring performance in primary care.

Some accountability mechanisms are already in place in Ontario such as: health professional legislation, peer assessment; self-regulation and patient complaint investigation through the College of Physicians and Surgeons of Ontario; and the provincial audit process which has included the OHIP program, the HSO program and primary care networks.

The PCN Global agreement sets out certain requirements. It requires verification of 5% of the roster annually, and allows for an audit on 24-hours notice.

However, several stakeholders suggested that greater levels of physician accountability were needed. There were three levels of possible increased accountability. These included accountability related to:

1. Service delivery within the PCN
2. Service delivery, *plus* improved patient satisfaction and health outcomes among their rostered patients
3. Population health, program planning and resource utilization in their community

Various monitoring systems have been proposed that would give physicians a greater level of accountability to the Ministry and the public. It is important that stakeholders are able to assess PCR on an on-going basis, including its impact on cost, volume, quality of care, and overall primary care delivery in order to identify success factors and areas that require further attention.

Some examples of physician accountability mechanisms include:

- Performance-based incentives
- Annual reviews
- Peer review and feedback
- Audit and feedback
- Public reporting of provider performance
- Practice profiling
- Development of chronic disease registries - for best practice assessments
- Application of quality improvement tools in an integrated fashion - e.g. all physicians use the same IT system, group-based CME
- Clinical governance - requirement to monitor quality of care and adhere to clinical guidelines
- GPs within a group adopting speciality areas to ensure the availability a full range of services
- Reporting to community boards, advisory panels, etc.
- Accountability to community-based health care goals

- Requirement for collaborative initiatives with other providers and health agencies
- Requirements for conducting community needs assessments (and indicators)
- Population-based quality and outcome assessments (high level indicators)

Specific examples of how these have been employed internationally are as follows:

Level 1 – Accountability for service delivery. In the United States, some HMO contracts have performance and standards measures built in. For example, some have to guarantee an appointment within a given timeframe, the availability of speciality services, and provision of health services within a given budget.

Level 2 – Accountability for service delivery, plus improved patient satisfaction and health outcomes. In Costa Rica, a contract with primary care physicians includes accountability for service organization, service delivery and quality of care. Organizational indicators include percentage of referrals and provision of cost and budgetary information. Service delivery includes indicators related to immunization coverage, well-women interventions and education. Quality indicators entail: application of protocols, adherence to standards set for waiting times, and consumer satisfaction.[67]

In the United States, to receive accreditation, many managed care organizations are participating in performance measurement programs. Hanchak et al.[68] assessed a physician performance-based compensation scheme run by Aetna U.S. Healthcare Inc, in Hartford, Connecticut. Each physician or physician group that contracts with Aetna receives a bonus payment based on five quality of patient care dimensions: (1) patient satisfaction; (2) appropriateness; (3) efficiency; (4) effectiveness; and (5) managed care philosophy. The bonus is based on points received according to physician performance in each of these dimensions.

Hanchak reported that Aetna considered the performance-based compensation model to be successful in all quality areas except patient satisfaction. The model used by Aetna to gauge and subsequently reward physician performance illustrates possible tradeoffs that exist in improving the quality of patient care. "Patient satisfaction may not have improved because the various areas that were used to generate the performance-based incentive may be inversely related to patient satisfaction. The issue is whether Aetna's performance measures are proxies for quality or cost containment. That is, reductions in length of hospital stay and procedure rates will reduce program costs. If these cost-containment measures result in lower patient satisfaction scores, then it will be difficult for a physician to improve in all these areas. However, by recognizing that some quality dimensions may be inversely related, a health care plan may reduce this problem by assigning weights to the dimensions used to reward performance."

[67] Abramson W, "Monitoring and Evaluation of Contracts for Health Service Delivery in Costa Rica." Abt. Associates. July, 2001.

[68] Hanchak NA. A performance-based compensation model for obstetricians/gynaecologists. *Clin Obstet Gynecol.* 1997;40:437-445.

Level 3 – Accountability for population health, program planning and resource utilization in their community, as well as Level 1 and 2. Primary Care Groups (PCGs) have been introduced in the United Kingdom. This arrangement brings GPs, nurses and community care professionals into health planning. [69] Built on the former fund holding model, where GPs manages the health care budget for their patients, PCGs are mandatory and have an average of 50 physicians.

PCGs are designed to: 1) develop and plan primary care and community health services; 2) improve the quality of care by implementing clinical governance; 3) take increasing responsibility for commissioning secondary care for their population; and 4) improve the health status of their population.

In this model, the PCGs are meant to achieve improved quality by greater integration of the health delivery structure, financing and accountability for quality. Quality improvement will be facilitated by a "clinical governance" program whereby the PCGs have a statutory duty to perform clinical governance and implement arrangements for monitoring and improving the quality of care they provide. This involves including providers in the oversight of each other's work, including developing reporting and feedback mechanisms, and formalized audits. CME and the implementation of evidence-based guidelines play a strong role in this process.

To be more responsive to the needs of their population, PCGs are undertaking needs assessments and assisting in the development of indicators for common conditions in their locale which are to be monitored over time. PCGs will eventually be accountable for the improvement of these indicators. This will include traditional medical practice and community outreach programs. The intention is that auxiliary and community services will become more integrated with the PCGs over time.

Eventually, there is a plan to incorporate performance-based incentives and public reporting in the PCG scheme, as well as introduce community-based boards.

Some stakeholders say they have not seen any changes in physician behaviour since the commencement of PCN, but there is no hard evidence to support this claim one way or the other. To better enable monitoring of primary care delivery, an information system is required to collect essential morbidity, mortality and health outcome data. Such information on GP/FP, as well as hospital (including emergency departments) and community services is required.

As well, physician involvement in information sharing and problem solving in the health sector stands to be improved. According to one individual, "primary care doctors haven't traditionally had a forum for dialogue with local planners, and the problem is that the family physician doesn't have a personal stake." Most of the networks have not developed arrangements to participate in local information-sharing structures. A notable

[69] In Ontario, DHC committees have a mix of consumer and providers.

exception is Hamilton, where the PCNs have developed a relationship with Family Medicine – Hamilton Wentworth, a formalized structure for family physicians to communicate with each other. Hamilton also has a Primary Care Council, an information-sharing forum for health service providers. But, there are many other opportunities for improving linkages.

Other stakeholders feel there are professional and structural barriers to physicians adopting a systemic view and greater accountability to the health sector at large. Some say physician payment mechanisms and training do not encourage a population health or systems-based perspective and approach. They believe physicians should be held more accountable for population health, program planning and resource utilization.

18.2.3 First Contact of Care, Multidisciplinary Teams and External Linkages

PCR has not had a significant impact on first contact of care.

> *Primary care is generally defined as the first point of contact between a patient and the health care system. This care can be provided by a variety of health care providers including: family physicians, paediatricians, nurses, physiotherapists, chiropractors and optometrists. The role of these providers has been reinforced and supported through the passage of the Regulated Health Professions Act. (Source: Primary Care Reform Goals, Objectives and Targets, MOHLTC, Dec. 1999)*

There are three levels where a diversified team of primary care providers can provide first contact of care:

- In the physician's office or practice
- Within the primary care network
- External primary care services and providers in the community

The traditional FFS model has not promoted the participation of alternative providers in the delivery of primary care. The expectation was that PCR would improve the ability of doctors to provide comprehensive primary care services, but not always be the provider who delivers health services. But, many stakeholders express concern that the current model remains a medical model. Many believed that the different funding mechanisms in PCR would give doctors the ability to explore alternatives for providing care and allow them to be more creative with their time and other staff members. However, expectations have not been met in this regard.

An equitable model for multidisciplinary teams has not been implemented across the PCNs. Some PCNs / physicians have had access to nurse practitioners and alternative primary care providers, while others have not.

There are differing viewpoints about the cost-effectiveness of non-physician health providers, but no definitive evidence to support them. From both a PCN and systemic

point of view, a comparison of the cost of providing care to a patient population with and without other primary care providers is required, as well as an assessment of the impact on costs and outcomes related to improved access to preventative interventions, nutritional counselling, and mental health services.

As well, many anticipated that a group or network arrangement would also have an impact on first contact of care and enable the accommodation of special interests or expertise, (i.e. within a network there would be a diversity of skills, interest and time to accommodate a diverse and changing client group). This expectation has not been met. As reported previously, some PCNs more than others, have reached out to community-based organisations and external primary care providers. However, most PCNs have been focused on implementation, and their resolve to forge these alliances has not been great enough predominantly because PCNs are not in a position to contribute resources to these areas. As there is no accountability or direct responsibility, it is difficult for them to develop stronger ties or to participate in program development.

A number of barriers to improved co-ordination of care with health providers and services external to the PCNs remain, and in general, communication and co-operation with other providers has not improved. Increased collaboration with specialists, academic health centres and hospitals is needed. Integration of information technology throughout the health care system would greatly facilitate this.

18.3 Systemic Barriers

Some components of the structure and nature of the health care system have been identified as impediments to primary reform in Ontario. These affect other health care services and programs as well.

18.3.1 Health Care Financing

The structure of the Canadian health care system itself has been identified as an impediment to primary care reform. Hutchison et al. state that the "founding bargain" between the medical profession and the government that privileges hospital-based and physician-provided care has "created and reinforced institutional arrangements that serve as barriers to change." This they say has left policymakers with few tools to reshape the delivery and organization of primary care.[70]

This sentiment was reiterated by numerous policymakers, administrators and primary care physicians interviewed over the course of the evaluation. The three major issues identified were:

- The predominant focus on GPs rather than on primary care
- Silo funding

[70] Hutchinson et al. "Primary Care in Canada: So much innovation, so little change." ***Health Affairs*** May/June 2001, Vol. 20, No.2 pp116-131.

- The lack of integration among reforms

Despite the definition of primary care as first contact care that could be provided by a number of providers and the emphasis on increased linkages with the rest of the health care system, many say that the province is only looking at one piece of the puzzle in their approach to primary care reform. With regard to the MOHLTC, one individual said they are "expecting too much, but only tampering with one aspect. PCR may be unachievable in the larger context."

Some have expressed concern that physician resources are not being used wisely or the most efficiently. Financial incentives influence practice patterns and administrative decisions. Many have said that the Ontario health care sector is still working in a silo fashion and this is barrier to reaching full potential. Because an incremental approach is taken on health care issues, there is a need to consider the impact of change in one area on the rest of the health sector and vice versa.

Several of those interviewed fear that Ontarians will not get full value of primary care reform under the current silo funding system. They say that many funding policies are either counterproductive or misaligned with the goals and objectives of primary care reform.

A number of examples were given of the impact of having a health care system that is not integrated. The financial incentives in health care delivery are not aligned; under FFS doctors are paid the more they do (with no incentive to manage demand), and for hospitals the incentives of global budgeting imply the less they do the better. Thus, cost cutting measures within the hospitals may result in constraints on access or higher costs in another part of the health care system.

These conflicting incentives have already created unintended consequences for primary care reform. For example, one PCN has hired a new doctor who along with two other doctors in the PCN will provide obstetrics care to the PCN's patients. However, she has not been able to get privileges in the local hospital. And because that hospital has a limit on the number of births allowed there each year, even physicians with privileges are concerned about access for their obstetric patients.

In the current system, where there are few options for shifting of monies, many primary care-related programs are funded and operated separately. Money in the MOHLTC is tied down and earmarked for narrowly defined purposes. One interviewee lamented that these funds "can't be switched across lines even if it makes sense." Another stressed the need to remove "artificial barriers," such as silo funding, dedicated budgets and limited collaboration among Ministry branches.

There have been some examples of resource shifting. In Sault Ste. Marie, an "ambulatory care incentive plan" was negotiated with the hospital where related savings due to reduced acute hospital care could be reallocated to primary care and day surgery.

Many argue that there is a need to have co-ordinated control of all funds for a defined population so they can be allocated appropriately. They identify a need to address problems from the patient's perspective, not only from a physician and/or hospital perspective. Some say patients should have a greater voice in reform, and that a greater commitment to this principle by the MOHLTC is required.

There are various funding options to consider. The purchaser / provider split has been addressed in other jurisdictions, such as regional health authorities in other Canadian provinces, and GP fund holding (now Health Care Trusts) in the United Kingdom.

However, a change in funding mechanisms in itself would not be a solution. Poor information is also identified as a barrier to improved decision making about resource allocation. Better information is required for defining the primary care needs in the community, and has been identified as a key ingredient to the effectiveness of the regional health authorities elsewhere in Canada. It is currently difficult to link data between GPs and hospitals, and the information that does exist is still inadequate. For example, OHIP billing codes have limitations for assessing utilization and cannot be used to assess morbidity and mortality.

18.3.2 Family Physician Supply

Seventy-two southern Ontario communities are designated as under-serviced and needing 390 family doctors; 117 family doctors are required in 32 northern communities. A new estimate shows that Canada is short 3,000 family doctors, and that this could increase to 6,000 by 2011.

The National Physician Workforce Survey, a survey of 14,319 physicians released in October 2001 by the College of Family Physicians of Canada, confirms that physician supply is an important issue.[71] [72]

A physician shortage can impact access to care. Two-thirds of the family physicians who completed the national survey reported that they are not accepting new patients – except in specific circumstances, such as immediate family members. It is estimated that currently 30% of Canadians do not have a family physician. People who do not have a family physician tend to go to emergency rooms and walk-in clinics, which are more costly and provide less continuity of care than a regular doctor or clinic.

The physician survey found that physicians' main concerns were access to care and waiting times. More than two-thirds of doctors reported moderate to severe problems getting medical services for their patients, an increase from 53% in 1997. They report lack of access to psychiatrists, long-term-care beds, hospital beds, orthopaedic services, home care services and obstetrician-gynaecologists as the most concerning.

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[71] Vanessa Lu "Family doctor shortage looms: Survey — Two-thirds of MDs say they no longer accept new patients," *The Toronto Star*, 10/25/2001, A24.

[72] Andre Picard "Family MDs are overworked, survey says Canadian doctors average 53 hours a week and typically see 124 patients, poll shows," *The Globe and Mail*, 10/25/2001, A11.

Family doctors who provide on-call services report working an average of 73 hours a week, and see an average of 124 patients during that time. But, 20 % say they plan to reduce their work hours over the next two years, and 15% of doctors in Ontario say they plan to retire, take a leave, relocate to another province or country, or quit practice altogether. These statistics indicate that there could be even greater pressure on physician workload in future.

Quality and continuity of care may be affected as a result of physician under supply. According to Dr. Nick Busing, Chair of the Department of Family Medicine at the University of Ottawa and Chair of the steering committee overseeing the physician survey:

> *Family medicine is a very demanding discipline. Particularly, with the downsizing of hospitals, there is a shifting burden of illness into the community. There is more pressure on family physicians, who want to provide comprehensive care in the emergency department, do obstetrics and palliative care.*
>
> *In recent years, the popularity of family medicine as a career choice has fallen with new graduates opting for specialities such as cardiology and surgery. Younger doctors are also demanding a better balance between their home and work lives.*[73]

It is unclear whether there is the right number, mix and distribution of family physicians in Ontario, and which one is the greatest problem. For example, adding more doctors who choose not to practice with disadvantaged populations or in rural areas may not address the problem.

Many family physicians interviewed as part of this evaluation believe that physician shortages are the greatest barrier to the provincial roll-out of primary care reform. They feel that the MOHLTC has not done enough to address doctors' shortages. One doctor said "most people would say we're tight on doctors, but it depends on which formula or benchmark you use." But one way or another it "doesn't inspire a lot of confidence in the system and contributes to a high level of cynicism."

Some components of PCR impact on physician workload and supply. PCR entails increased administrative workload for participating doctors. This coupled with an under-supply of doctors in some regions of Ontario is an additional barrier.

The impact of rostering and capitation on patient access has also been identified as a concern. Many say that having a roster limit in under-serviced areas in not a workable solution, as it leaves many without a family doctor.

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[73] Vanessa Lu "Family doctor shortage looms: Survey --- Two-thirds of MDs say they no longer accept new patients," *The Toronto Star*, 10/25/2001, A24.

There is also a need to identify workable solutions for the integration of nurse practitioners into primary care delivery, and to determine how they can and do reduce physician workload.

As well, the incentive in the capitated model to book fewer patients could increase waiting times and the referral of patients to specialists. In the current situation, it will be difficult to determine whether these outcomes, if they were to exist, were related to the payment model or physician under-supply.

18.3.3 Ministry of Health and Long-Term Care

Mistrust of the MOHLTC among some physicians remains. Many believe that for the Ministry, PCR is solely about cost costing. Physicians are concerned about future remuneration under the PCR payment schemes. There was wide-spread belief that the capitation rates could either be frozen or reduced. There is a feeling that the MOHLTC undervalues their services. Some doctors say this comes across in their dealings, and affects current and future relationships.

These sentiment are exacerbated by the perceived inaction on the doctor's shortage and the delays – and in some cases unmet promises – related to PCR. As well, many PCN physicians have reported frustration with delays in feedback and action on the part of the MOHLTC. Some point to poor communication among branches as a limitation to progress.

Another criticism of the MOHLTC is that while numerous people in the Ministry have worked on primary care over the years, there is insufficient institutional memory or understanding of issues. Many in the Ministry have gained significant knowledge about the concepts and issues related to primary care, but they seldom stay in their position long enough to see a reform initiative from start to finish.

As well, it is important to note that at this stage few differentiate between the Ministry and OFHN, and some are unaware of the change in management structure and mandate.

19. What Do We Need to Consider Moving Forward?

The following section presents some of the considerations for moving forward, and highlights some issues that should be addressed as part of the provincial roll-out.

19.1 The PCN Physician Perspective

As central figures in primary care reform in the province, PCN physicians have strong opinions about what would have to change in order to bring about the successful provincial roll-out of primary care reform.

PCN physicians most often expressed concern about remuneration; many said that either the current incentives were either not great enough to entice others to join or not structured in a way that reflects physicians practice location, patient profiles, etc.

Several PCN physicians also said that a multidisciplinary team of care providers was a critical part of primary care reform. As noted previously in this report, access to other health providers is limited in the PCNs, and determined mainly by access to specific funding sources, such as pre-existing HSO funding and the limited nurse practitioner funding.

Physicians also feel that information technology must be integrated and compatible with other parts of the health care system, such as hospitals, CCAC and laboratories, before PCR can be successfully implemented. They also said that the implementation and application of the IT systems have to be more user friendly.

Physicians also point to the need for greater patient education and awareness about the reform. They say patients require a greater understanding of what it will mean to be a rostered member of a PCN and what their obligations are.

The top five challenges facing the provincial roll-out of PCR identified by PCN physicians were:

1. Gaining physician acceptance of the models
2. Lack of trust of the MOHLTC by physicians, and fear of greater control by the Ministry resulting in loss of autonomy
3. Convincing physicians that the reform will be revenue neutral or positive
4. Allaying concerns about the impact on workload from extended hours, increased call schedules, increased administrative duties, etc.
5. Lack of trust of the OMA by GP/FPs

There has been a lot of negative press about PCN, and often the positive has been missed. As it stands, PCN physicians fear that PCR may not get adequate support from other physicians in Ontario, but say that the potential is there if physicians can be more assured. Here are three opinions on barriers provided by three different stakeholders:

If the pilots can be shown to work well, then more people may want to join these initiatives, but if you don't have them working well, there will be more scepticism and PCR won't work.

The willingness is there, but frustration overshadows enthusiasm.

Rank and file GPs may go for this – especially if it is presented as a turnkey solution–with an option to walk out in two or three years after they have given it a try.

The following have been identified as necessary to get physician and public buy-in:

- Clarity of what PCR will do (i.e. the objectives)
- A guaranteed timetable
- Adequate resources; change requires money
- A more streamlined IT solution
- PCR is stalled; it needs a breath of fresh air

19.2 Issues for Consideration

The Model: achieving balance and ease of implementation. A balance has not yet been struck between the desire by participants to have a "turnkey" model for implementing primary care reform, and the fact that "one size does not fit all".

While there are clear benefits to a consistent, province-wide approach to PCR, responsiveness to individual network issues (e.g. rural vs. urban issues, outside use rates, proximity and links to other health providers, types of procedures performed, practice size, call-group arrangements, etc.) is required.

Many PCN participants recognise now that the implementation phase is complete and that it was necessary go through the "learning curve" and to develop operational mechanisms unique to their own situations. But, many lament that some components of the implementation were not as straightforward and laid out as they could have been. There is greater potential for some of the components of new models to be streamlined, and for lessons learned and best practices to be documented for future participating physicians.

As well, the Ministry needs to establish clear policies and guidelines on key implementation issues, adhere to timelines and meet commitments, and streamline contract negotiations.

Information Technology. IT has been identified as one of the main incentives for joining PCR. Addressing and resolving outstanding IT issues should be prioritised. The MOHLTC should resolve outstanding issues, and system hold-ups and glitches, as well as address the unmet expectations of physicians and other health stakeholders before moving forward.

The implementation of information technology could be more systematic. The pros and cons of choice versus ease, lower cost and compatibility of IT should be revisited. Some say that one system (ideally with a centralized server) as opposed to a decentralized approach is necessary to achieve cost savings and smoother implementation. Many physicians stated a preference for a "one-stop shopping" IT package that can be installed with greater ease.

Urban /rural issues. The geographic location of the PCN is an important consideration and impacts on the effects of the payment models, group formation and functioning, and extended and after-hours coverage. The model should be tailored to regional circumstances.

Rural area physicians often provide a greater range and intensity of services than their urban counterparts. The capitation rates do not account for the different range of services often given in a rural versus urban practice. This includes certain procedures conducted more frequently by rural physicians, lower referral rates, and a greater proportion of the follow-up after a referral to a specialist.

There are potentially four or five different types of localities in Ontario where PCNs would exist. The key issues to consider when assessing the type of locality and the impact of the PCR model on the locality include:

- Proximity of PCN to a hospital
- Proximity of PCN to other health services
- Proximity of PCN to range of specialists
- Whether the physicians also provide the hospital and long term care in the area
- Whether the physicians are the only or majority of providers in the area
- The range of services provided by the GP/FPs
- The 24/7 arrangements e.g. is the call schedule 1/4 versus 1/20?
- The burden of illness in the population
- Proportion of patients with special needs

The majority of GP/FPs in Ontario are in large urban areas in Ontario; 43% are in Toronto, and it will be important to get this group on board in order to truly achieve a provincial roll-out. Some urban-based physicians have shown interest in participating in PCR. The implementation of a network in Toronto may set an important example to other urban physicians, and help identify and resolve issues unique to this large urban area.

Patient profiles. Following from the regional discussion above, some regions in Ontario have a lower socio-economic status and higher dependency rates. In these areas, poorer health profiles can be expected. In rural areas, the health status of the catchment area generally reflects the health status of the patient population of the local physician.

However, urban areas also have unique health problems and concerns, such as a higher prevalence of homelessness, addictions and HIV/AIDS. In urban areas, it is usually specific physicians or practices that serve patients with special needs. Thus, in urban

areas it is harder to attribute the health status of the area with the health status of a physician's patient population.

The impact of the capitation rates on access to care needs further consideration. Both the payment mechanisms and the structure of the capitation rates may create disincentives for physicians to serve certain types of patients. Special consideration is required to account for barriers to care – such as geography, socio-economic status, health status, literacy, language and ethnicity – that may exist.

Physician readiness. Primary care reform requires physicians to perform many new and different roles, such as leadership, budgeting, negotiating and planning. In some cases, physicians are not used to performing these tasks on a regular basis and lack the necessary skills to carry out the roles effectively. This has been a source of frustration for many pilot participants.

In order to bring approximately 8,000 family physicians into primary care reform, it will be critical for the Ministry, OFHN and the OMA to assess and address the readiness of physicians to undertake primary care reform activities. They should look to physicians with leadership experience to contribute to this process. Some of the areas where skill development will likely be required are:

- Group facilitation, management of group dynamics and conflict resolution
- Recruitment and management of other professionals (e.g. nurse practitioners)
- Integration of multidisciplinary teams into primary care practice
- Budgeting and accounting
- Privacy, confidentiality and security of electronic patient information
- Networking with other organizations and forming community linkages

Group dynamics. In most cases, successful group collaboration has made a difference in the implementation and operation of the PCNs. As well, it is important not to underestimate the social benefits of this interaction. A key message from experience to date is that it takes time to develop trusting and working relationships. Future PCNs would benefit from the learning experiences of existing PCNs related to factors for success, best practices and examples of achievements. Some of these are detailed in the section about group collaboration in this report. Also, the Ministry should explore opportunities to support activities that foster collaboration among PCN physicians.

As well, a mix of skills in the group would be an asset. Individuals with IT, administration, leadership and specific clinical expertise would promote group success, as would the participation of non-physician health providers and administrative staff.

Nurse Practitioners. It is critical that the role of the nurse practitioner be reviewed and defined. This would include an assessment of the role of the nurse practitioner as a substitute, complement or both to physician services, as well as potential specialized roles defined for specific practice environments.

Role definition will require consultation among all relevant stakeholders. It will also be necessary that the PCN and/or physicians' office clearly determine what their needs are and how best to employ their services of a nurse practitioner. Like other health professionals, apart from their training, nurse practitioners come from various backgrounds with varying strengths and skill sets. Greater consideration is required to determine the appropriate "fit".

As well, the work by Jones and Way[74] has made a valuable contribution to the nurse practitioner experience, and provides evidence that external support and assistance with role definition and collaborative approaches can improve the effectiveness of the nurse practitioners as a member of the primary care team. Other requirements are the development of triage guidelines for office staff, and models for employing and paying nurse practitioners.

As alternative primary care practitioners, nurse practitioners have a potential to save the health care system money. As complementary practitioners, providing a greater scope of preventative and counselling services, they may cost more to the system, but improve health outcomes. The economic impact of nurse practitioners in their various roles is required to determine the overall impact of their contribution on cost, outcomes, access to care and physician availability. Refer to the discussion in the nurse practitioner section of this report for greater detail.

Multidisciplinary teams. Primary care physicians say that multidisciplinary teams are a critical part of primary care reform, and the public is expecting them. To date, access to these health providers has been uneven. Future implementation and funding models need to include provisions for non-physician primary care providers.

Physician remuneration. The following components of the physician remuneration package should be revisited:

- Negation
- The bonus codes
- Ensured access to care for patients with special needs
- Compensation rates for elderly and high acuity patients
- The conflicting incentives in RFFS vis à vis roster size
- The method and source of payment for other health providers

[74] Way and Jones, "Nurse Practitioner/Family Physician Collaborative Practice- Let's do it" (September, 2001)

Rostering. Several rostering approaches have been employed and no matter which method is used, rostering is very time consuming and labour intensive. The facility for electronic rostering should be in place before the provincial roll-out.

The results of the current study at McMaster should provide guidance on best practices. In the future, other rostering models such as virtual (British Columbia model) or passive rostering (where physicians identify their active patients and patients are informed that they are rostered unless they wish to opt-out) could also be considered to simplify the process.

As well, some patients are unsure as to the purpose of rostering. Some do not understand their responsibilities under the agreement. As well, there is concern on the patients' behalf about confidentiality and who has access to their records. Some mistrust the government and fear there is a hidden agenda. Improved public education is required to inform the public about PCR and their role in the reform, and to allay their concerns about privacy and the confidentiality of their health records.

Extended hours, call groups and teletriage. Moving forward it will be very important for the Ministry and OFHN to ensure that the appropriate resources, infrastructure and policies are in place to ensure 24 hour access. This has been one of the most publicized aspects of primary care reform and public expectations are understandably high.

In terms of teletriage, provisions must be put in place for:

- Dealing with higher than expected call volumes without compromising patient access
- Making the teletriage service available to all new FHNs on the date the FHN becomes active
- Distributing information about teletriage directly to patient households at the time the patient rosters with the FHN and in a language that the patient can understand
- Conducting follow-up surveys to identify caller satisfaction and the actions actually taken by callers
- Meeting the diversity of linguistic needs of Ontario residents (e.g. other health service providers have addressed this with multilingual staff and/or telephone links to interpreter services)
- Clarifying roles and expectations of the PCN physicians vis à vis the teletriage service and accepting after hours phone calls from patients
- Developing an electronic linkage between the physician's offices and the teletriage service so that encounter sheets can be provided electronically
- Minimizing public confusion regarding the primary care reform teletriage service and the provincial Telehealth line

Although there is unlikely to be one solution that fits every community, further work to introduce minimum standards around extended hours and after-hours coverage would also be beneficial. This would include answering questions such as:

- How should the need for weekend coverage be determined?

- Exactly what is expected of physicians in terms of after-hours coverage? (I.e. currently some physicians accept calls from their patients after-hours while others do not)
- If after-hours coverage is a mandatory requirement for PCNS/FHNs, how will it be monitored?
- What strategies can be used to improve the multi-lingual capacity of the networks outside of regular office hours?

To the extent that variations in the provision of after-hours coverage are required, this should be addressed in the public relations strategy so that patient expectations are realistic and managed.

Linkages with other health providers and services. The objectives related to improved linkages with providers outside the PCN have not been achieved. Further progress toward reaching the goals of increased integration and co-ordination of health care would help to ensure that the delivery of health services are co-ordinated in a more effective and efficient way.

PCNs may require more incentives – financial, contractual or accountability – to increase their communication and co-operation with other providers. Additionally, further progress on information technology throughout the health care system would greatly facilitate improved integration.

There might also be an opportunity for the MOHLTC regional offices to play a role in facilitating these linkages.

Measuring cost effectiveness. Further assessment of the cost-effectiveness of specific components of the reform is required and should be considered in moving forward. From a short-term perspective, PCR may reduce costs (e.g. by eliminating duplication of some services or procedures) or increase costs (e.g. more preventative interventions). However, there is also a need to consider the medium and long-term effects of reform compared to the past or to other models and jurisdictions, and to measure the effects of the changes at primary care level against identified measurable outcomes. Analyses would include the measurement of the impact on service utilization patterns and frequency, outcomes and eventually population health status.

The following are areas where cost-effectiveness analyses are warranted and should be considered.

Costs and effects on access related to:

- Telephone triage services
- On-call arrangements
- Home care provisions
- Any changes in waiting times

Costs and effects of achieving improved comprehensiveness in:

- Preventative services
- Increased range of services
- Multidisciplinary teams
- Change in referral patterns

Costs and effects of improved co-ordination of care and linkages related to the objectives of decreases in:

- Avoidable hospital visits and days
- Duplication of care, including diagnostic testing, double doctoring, and medication use
- Inappropriate ER use

Costs and effects of capitation versus RFFS versus FFS funding in terms of:

- The incentives, impact on roster size, advantages and disadvantages, risks and benefits
- Hiring incentives, labour substitution between nurse practitioners and physicians
- Effectiveness of funding mechanism related to health outcomes

Incrementalism or big bang? Some of the delays in the implementation of PCR may have been due to the PCNs adapting to many changes at once. Implementation has entailed: new payment mechanisms; participation in a group; rostering patients; and installing and learning how to use a new IT system.

While some physicians were in a better position to implement and adapt to these changes (e.g. those who already used IT systems and former HSO physicians with rostering and multidisciplinary team experience), others were overwhelmed by the various components and this often created delays and frustration.

For some PCNs, the option of a staged approach may be better. For some the implementation of the IT system may be the priority, and its implementation could precede the other components. For others, the main incentive to joining a PCN could be the opportunity for the capitated payment model. These physicians could start with the rostering and group formation activities.

Such staged approaches, would not eliminate any of the components of PCR, and would require the definition of clear milestones and timelines. At a pre-determined stage in the implementation of one component, the implementation of the next would begin.

Have "all systems go". While the MOHLTC had some components of PCR ready at launch, others were not. As a result, the implementation of some critical PCR

components has been delayed, (e.g., some IT linkages, electronic rostering, teletriage). This has had a negative impact on the perception of the PCNs, the reform and the Ministry. All the required components should be in place before future roll-out.